

**Comments of**

**COALITION FOR SAFE BUILDING MATERIALS**

**(California Pipe Trades Council, California Firefighters Association,  
Consumer Federation of California, Planning and Conservation  
League, Center for Environmental Health, Sierra Club of California  
and Communities for a Better Environment)**

**on the**

**ADDENDUM TO ADOPTED MITIGATED NEGATIVE DECLARATION  
STATE CLEARINGHOUSE NO. 2000091089  
FOR  
CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE  
USE FOR POTABLE WATER PIPING IN RESIDENTIAL BUILDINGS**

**VOLUME I**

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**April 22, 2005**

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April 22, 2005

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The Department of Housing and Community Development  
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Re: CPVC Addendum to Adopted Mitigated Negative Declaration State  
Clearinghouse No. 2000091089

Dear Mr. Walls:

The following comments on the "Addendum to Adopted Mitigated Negative Declaration State Clearinghouse No. 2000091089" are respectfully submitted on behalf of the Coalition for Safe Building Materials ("Coalition"). The members of the Coalition include numerous environmental, consumer, public health, labor and professional firefighter organizations representing literally millions of Californians. The coalition includes the California Pipe Trades Council, California Firefighters Association, Consumer Federation of California, Planning and Conservation League, Center for Environmental Health, Sierra Club of California and Communities for a Better Environment, along with their individual members.

The Coalition's comments also include and incorporate by reference the expert comments of Dr. Phyllis Fox, Thomas Reid Associates and Dr. Jim Bellows. These comments also reference a number of supporting technical documents that are submitted as separately bound appendices. The supporting Appendix is also incorporated by reference and hereby made a part of the comments of the Coalition.

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April 21, 2005  
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We thank you and the Department for this opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas A. Enslow", followed by a horizontal line.

Thomas A. Enslow

TAE:cnh

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## I. INTRODUCTION

### A. CEQA Clearly Applies to the Proposed Project

The Department of Housing and Community Development (“HCD” or “Department”) is proposing to amend the California Plumbing Code (“CPC”) to permit the universal, statewide approval of Chlorinated Poly-Vinyl Chloride (“CPVC”) plastic drinking water pipe in all residential construction throughout the state. The Department has pursued the universal approval of CPVC for statewide use since 1982. Past CPVC approval, however, has not succeeded because proper environmental review has been consistently deficient and never completed.

What has been true since 1982 remains true today – compliance with the California Environment Quality Act (“CEQA”) is required prior to HCD’s universal statewide approval of CPVC. In fact, the CEQA law has only become clearer that building materials, and CPVC specifically, must be reviewed in an EIR before HCD can approve it for use throughout the state.

The courts have repeatedly concluded that approval of plastic plumbing pipe may have potentially significant adverse impacts on the environment, and therefore must be properly reviewed pursuant to CEQA. In 1997, the California Superior Court of San Francisco drew this conclusion as it directly relates to CPVC. (*Cuffe v. California Building Standards Commission* (1997) San Francisco Superior Court No. 977657 (Wm. Cahill, J.)). The San Francisco Superior Court granted a writ of mandate compelling the California Building Standards Commission (“CBSC”) and HCD to conduct CEQA review prior to deciding whether to approve the use of CPVC. (*Id.*) In that case, the Court found that CEQA review of CPVC must be conducted because of the “possibility of chemical leaching and solvents polluting drinking water,” as well as “potential chemical exposure to workers installing the pipe,” posed the possibility of significant adverse environmental impacts. (*Id.*)

More recently in *Plastic Pipe and Fitting Association v. California Building Standards Commission* (*PPFA v. CBSC*), the California Court of Appeals found that environmental review under CEQA must be conducted first before approving plastic pipe materials for statewide use. (*PPFA v. CBSC* (2004) 24 Cal.App.4<sup>th</sup> 1390.) In that case, CBSC and HCD prevailed in the position that environmental review was necessary before it could approve cross-linked polyethylene (PEX) pipes, another form of plastic pipe. The law is clear; proper CEQA review must be conducted prior to the approval of plastic pipe for drinking water use.

## **B. Current Procedural Posture**

Under HCD's proposed statewide approval, all local building officials would be required to permit the use of CPVC in any residential building. The issue before HCD is whether it may adopt this proposal without first completing an Environmental Impact Report ("EIR").

Currently, CPC section 604.1.2 strictly limits the use of CPVC to where a finding has been made that metallic pipe has or "will" prematurely fail due to existing water or soil conditions. Furthermore, even where such a finding is made, the approval of CPVC by local building officials is discretionary, not mandatory. CPC section 604.1.2 and CPC Appendix I, sections 301.0.1.1 and 301.0.2.1 also impose flushing, ventilation, glove-use and inspection requirements where such limited approval is granted.

This current limited approval of CPVC was approved in 2000 after the preparation of Mitigated Negative Declaration State Clearinghouse No. 2000091089 ("2000 MND"). The 2000 MND expressly and repeatedly stated that its findings were based upon the limited nature of the approval. Industry estimates obtained from HCD demonstrate that the current limited approval has applied to only *two to four percent* of the annual residential plumbing installations in California.

Prior to the 2000-limited approval, HCD twice determined in Initial Studies that the much broader statewide approval of CPVC would have numerous potentially significant effects on the environment (including contamination of drinking water, worker exposure to toxic solvents, increased air emissions, manufacturing, solid waste impacts and increased fire hazards) and would require the preparation of an EIR. Furthermore, HCD twice drafted incomplete EIRs on the impact of statewide approval of CPVC, only to abandon them prior to completion.

Despite its long-standing position that the much broader statewide approval of CPVC requires the preparation of an EIR, HCD now maintains that it may authorize the statewide approval of CPVC without completing an EIR by merely calling such an approval an "Addendum" to the very limited approval examined in the 2000 MND. (Addendum to Adopted Mitigated Negative Declaration State Clearinghouse No. 2000091089 ("Addendum").)

Such bootstrapping of a large new project to a small and more limited prior project subverts the intent of CEQA, violates the prohibition against piecemealing and fails to meet the legal prerequisites for utilizing the addendum exception to CEQA.

**C. The Addendum Misrepresents, Distorts and Obscures the Project Being Proposed**

As discussed in more detail in section VI, the Addendum is also legally deficient due to its mischaracterization of the project being proposed. In a blatant attempt to conceal the massive scope of the Project, the Addendum repeatedly defines the Project as a mere "removal of the Findings Requirement." (See, Addendum, p. 1, and passim.) Such a description fails to meet the basic requirements for accuracy of project description since the public is misled to believe the Project is merely a minor technical change to the prior limited approval of CPVC, when in fact it is a massive new Project that may expand the use of CPVC pipe throughout the state by 2500%.

The Addendum further misrepresents the Project being proposed by claiming that the congressionally created National Science Foundation has tested and approved CPVC as safe, when in fact it has not. The "NSF" that has tested CPVC is the National Sanitation Foundation, not the National Science Foundation. The National Sanitation Foundation ("NSF") is a private agency, not a government agency. Furthermore, far from having a government seal of approval, NSF has been severely criticized by federal environmental agencies.

**D. The Use of an Addendum Represents Yet Another Attempt by HCD to Circumvent CEQA Through Grudging and Pro Forma Compliance Designed to Secure Project Approval "Quickly and Efficiently"**

The proposed use of an Addendum results in the same de facto approval of CPVC for statewide use that has been rejected numerous times in the past due to significant environmental concerns. This is a major change to the state plumbing code and creates the potential for significant health and environmental impacts.

CPVC has never been permitted for statewide use in California but is instead allowed only under the very limited circumstance where copper pipe will fail due to aggressively corrosive soil or water conditions. Where statewide use has been proposed in the past, HCD has, at least twice, determined that an EIR must be prepared prior to statewide approval. HCD, however, has yet to complete proper environmental review for statewide universal use of CPVC.

Previous attempts at preparing an EIR for the approval of CPVC were abandoned because the environmental analysis was insufficient and many environmental concerns were not adequately addressed. To now permit statewide CPVC use without preparing an EIR would allow an end-run around CEQA by permitting the approval of CPVC plumbing materials without first evaluating their potentially significant impacts.

The courts have emphasized that the integrity of the environmental review process depends upon a genuine, objective and complete assessment of a project's potential environmental effects before the agency has decided to approve a project. (*Laurel Heights Improvement Assn. v. Regents of University of California*, *supra*, 47 Cal.3d at p. 394, *Mira Monte Homeowners Assn. v. County of Ventura* (1985) 165 Cal.App.3d 357, 366, *County of Inyo v. City of Los Angeles* (1984) 160 Cal.App.3d 1178, 1185.)

The courts will not countenance a "grudging and pro forma compliance" with environmental review requirements. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4<sup>th</sup> 713, 742.) The "assessment of environmental impacts . . . must be genuine [and] open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a project." (*County of Inyo v. City of Los Angeles*, *supra*, 160 Cal.App.3d 1178, 1185; *see also Mira Monte Homeowners Assn. v. County of Ventura*, *supra* 165 Cal.App.3d at p. 366.) "Only by requiring the [lead agency] to fully comply with the letter of the law can a subversion of the important public purposes of CEQA be avoided . . . ." (*People v. County of Kern* (1974) 39 Cal.App.3d 830, 842; *Mira Monte Homeowners Assn. v. County of Ventura*, *supra* 165 Cal.App.3d at p. 366; *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 71-72.)

Under pressure from the Plastics Industry, however, HCD has, for more than twenty years, attempted to approve CPVC without genuine, complete and objective compliance with CEQA. Indeed, the history of HCD's review of CPVC epitomizes the term "grudging and pro forma compliance."

The approval of CPVC pipe as a new material to deliver drinking water was first proposed to be included in the California Plumbing Code ("CPC") in 1982. (See Appendices 5, 54 and 101.) The proposal was based on the inclusion of CPVC in the 1982 Uniform Plumbing Code, the privately published model code upon which the CPC is based.

An Initial Study was then prepared by HCD, which determined that the approval of CPVC would present a potential for numerous significant effects on the environment and thus required the preparation of an EIR. (Appendix 5, 1982 Initial Study.) The potentially significant effects identified in the 1982 Initial Study included premature mechanical failure, increased air emissions, deterioration of existing aquatic habitat, increased fire hazards, contamination of drinking water from leachates, and worker health hazards resulting from exposure to chemical solvents through dermal absorption and inhalation during the manufacture and installation of plastic pipe.

A *draft EIR* was prepared for this project in 1989, *but was never completed*. All parties – the California Department of Health Services (“DHS”), the Attorney General, HCD attorneys and even the plastic industry – agreed that the 1989 document was woefully inadequate and that substantial additional evaluation and analysis would be required before a final EIR could be released. (Appendix 10.)

Although the 1989 Draft EIR failed to address a wide range of issues and was deficient in its examination of other impacts, the preliminary studies prepared in conjunction with the draft EIR nevertheless identified potentially significant impacts on human health and the environment with CPVC use. For example, the DHS prepared a study finding that workers installing CPVC pipe would be regularly exposed to toxic substances in excess of legal exposure limits. (Appendix 6.) Preliminary leaching studies also showed the persistence of toxic and carcinogenic compounds in the drinking water carried by CPVC. (Appendix 7.)

Based upon these preliminary findings, the 1989 Draft EIR recommended various worker and consumer safety mitigation measures, including worker education and training, gloves, ventilation, drying of primers, and system flushing measures similar to and, in fact, more extensive than the mitigation measure approved in the 2000 MND. These proposed mitigation measures, however, were strongly criticized by a long list of public agencies, individuals and consumer, environmental and labor organizations as inadequate to protect worker and public health and safety. DHS, for example, strongly criticized HCD’s efforts, concluding that Draft EIR’s statement of worker health risk still omitted the most significant exposure findings of the DHS study, and that the recommended mitigation measures were vague, unlikely to be followed and lacked enforceability. (Appendix 8.)

Faced with the mounting evidence of potential hazards associated with plastic pipe use and the need for additional study, the Plastics Industry directed HCD to terminate all work on the 1989 EIR. (Appendix 9.) As a result of this directive, the 1989 EIR was abandoned and left incomplete.

In 1995, in a compromise aimed at addressing the limited problem of corrosive water and soil conditions causing premature failures of metallic pipe, AB 151 was enacted authorizing by statute the limited use of CPVC for an experimental two-year period. (Health & Saf. Code § 17921.9.) The approval of CPVC was limited to local jurisdictions where metallic pipe was found to prematurely fail. The Legislature also imposed mitigation measures in an attempt to address the public health and worker health hazards associated with CPVC during the experimental use period. (*Id.*) The two-year period expired in 1997 and was not renewed.<sup>1</sup> (*Id.*)

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<sup>1</sup> However, almost identical provisions were enacted again in 2000 by the HCD regulations that were the subject of the 2000 MND.

The same year that AB 151 was enacted, BFGoodrich asked then-Governor Wilson to expand this limited approval statewide, *without any further compliance with CEQA*, by declaring CPVC approved "by edict." Goodrich executives made this request at a fundraiser in Ohio during Wilson's presidential campaign and subsequently in writing. (Appendix 12.) A month after receiving the Goodrich request, Wilson directed HCD to adopt emergency regulations approving CPVC without completing the 1989 EIR and without requiring any measures to protect workers or consumers. (Appendix 13.)

On October 26, 1995, the Department approved proposed regulations authorizing the statewide approval of CPVC. (Appendix 14.) Numerous individuals, members of the Legislature, consumer groups, environmental and labor organizations and plumbing and mechanical contractor associations objected to this proposed approval of CPVC on the ground that HCD had failed to address the serious public health and environmental issues associated with CPVC potable water pipe raised as a result of the abandoned 1989 EIR.

The Department rejected these arguments and submitted the proposed regulations approving CPVC to the California Building Standards Commission ("CBSC") for adoption as required by the California Building Standards Law. (Health & Saf. Code §§ 18901, *et seq.*) Despite the overwhelming evidence raised in the 1989 DEIR proceedings, HCD representatives testified before the CBSC that the approval of CPVC potable water pipe would not have significant environmental effects. HCD further argued that CEQA did not apply to amendments to the CPC. The CBSC then adopted HCD's proposed regulations. (Appendix 15.)

A coalition of labor, environmental and contractor groups challenged the HCD/CBSC approval in court for failure to comply with CEQA. The court found that an amendment to the California Plumbing Code allowing the use of CPVC pipe constituted discretionary action subject to CEQA, and that such action could result in potentially significant environmental effects. (*Cuffe, et al. v. California Building Standards Commission and California Department of Housing and Community Development* (Sup. Ct. San Francisco County, 1997, No. 977657) Order granting writ of mandate filed Jan. 21, 1997, Appendix 15.) On this basis, the court invalidated the CPVC approval and ordered HCD and the CBSC to take no further action to approve CPVC without first completing an Initial Study and either an EIR or a negative declaration. (*Cuffe, et al. v. California Building Standards Commission and California Department of Housing and Community Development, supra*, judgment granting peremptory writ of mandate filed April 9, 1997, Appendix 16.)

In response to the court's order, HCD hurriedly prepared an EIR that was certified in December 1998, in the final days of the Wilson Administration. Unlike the

earlier EIR process, this EIR was prepared without any outside consultants or technical experts and instead relied largely on information provided by Goodrich.

The EIR Initial Study ("1997 Initial Study") prepared by HCD determined that the proposed statewide approval of CPVC would present potentially significant impacts on air quality, water quality, solid waste, worker health and safety, public health, and fire hazards. (Appendix 17.)

Despite the findings of the 1997 Initial Study, the outcome of the EIR process was never in doubt. Internal memos from HCD and the Business, Transportation and Housing Agency ("BTH") released in response to public records requests revealed the clear instruction to HCD that CPVC be *approved* before the end of the Wilson administration irrespective of any requirements for environmental review. This politically imposed deadline precluded HCD from conducting any genuine analysis of potential impacts.<sup>2</sup>

As a result, the hastily prepared 1998 EIR contained almost no new analysis from the abandoned and universally discredited 1989 EIR. Furthermore, it concluded that *no* safety measures were required with CPVC installation and use, even though HCD's 1989 EIR, prepared with independent technical consultants, concluded that such safety measures were *essential*. Particularly troubling was the fact that the final EIR reached this conclusion without addressing the technical issues raised in the several hundred pages of comments on the draft EIR submitted by consumer, environmental and labor groups, public agencies and officials, plumbing and mechanical contractors and others.

The public comments on the draft EIR were highly critical of the cursory and biased treatment of the serious health and environmental issues associated with CPVC drinking water pipe. Nonetheless, HCD followed its orders and certified the obviously inadequate EIR. Not surprisingly, this led to another lawsuit.

Given the blatant deficiencies of the 1998 EIR, HCD agreed to settle the lawsuit in 2000. As part of that settlement, HCD rescinded the certification of the EIR and admitted that the document was "incomplete." (Appendix 1; See Letter of Settlement Terms, p. 1, art. 2.) The settlement provided that the parties to the

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<sup>2</sup> After the then-director of HCD reported to BTH of HCD's proposal to engage technical experts and develop a plan for the environmental analysis, the HCD Director was called to a meeting with BTH officials. An internal Agency memorandum reported that the purpose of the meeting was to ensure that HCD understood that its mission was to ensure CPVC approval by December, 1998. The BTH representative reported that he "just had a come to Jesus meeting with [the HCD Director]." (Appendix 18.) The memorandum reported that the HCD Director indicated that he had been specifically told by BTH "that he [HCD Director] was individually and personally on the line to manage and make this thing work. That his job, reputation and [expletive] would be ground into nothingness if he failed . . . . [HCD Director] also apologized if he misunderstood his role, and is ready and willing to cooperate to make plastic pipe for residential use a reality." (*Id.*)

lawsuit would not challenge a proposed Mitigated Negative Declaration on the limited approval of CPVC, *even if it was deficient*. (Appendix 1; See Letter of Settlement Terms, p. 2, arts. 4 & 5.) In return, the Project analyzed by the Mitigated Negative Declaration and approved by HCD was limited to granting local building officials the discretionary authority to approve CPVC only where the official determines that there will be a premature failure of metallic pipe due to existing water or soil conditions. Furthermore, express mitigation measures were imposed in an attempt to address public health and worker health.

As a result of the settlement, both the 1989 and the 1998 EIRs examining the potential impacts of statewide approval of CPVC were left unfinished. The settlement deems the 1998 EIR incomplete and expressly provides that nothing in the settlement agreement is intended to affect any future action by the State related to the possible approval of CPVC on a statewide basis.

#### **E. The Use of an Addendum for the Statewide Approval of CPVC Is Improper**

Despite the admission and agreement that the 1998 EIR was incomplete and that the approval of CPVC on the limited basis was not to affect the possible approval of CPVC on a statewide basis, HCD now attempts to slip statewide approval of CPVC through the backdoor without completing an EIR by calling statewide approval a mere "amendment" to the 2000 MND. Such machinations violate both the spirit of the 2000 settlement agreement and the letter of CEQA law.

The courts have given particular consideration to "how a public agency must approach the environmental planning and approval process the second time around when its original actions have been declared violative of CEQA." (*San Franciscans for Reasonable Growth v. City and County of San Francisco* (1989) 209 Cal.App.3d 1502, 1522-1523.) In *Laurel Heights*, for example, the Supreme Court put the lead agency on notice that its prior approval of the project would not excuse anything less than full and complete compliance with CEQA requirements:

"The [lead agency] must begin anew the analytic process required under CEQA. We will not accept *post hoc* rationalizations for actions already taken, particularly in light of the fact that those activities were begun in violation of CEQA, even if done so in good faith. To do so would tarnish the integrity of the decision making process required by CEQA . . ."

(*Laurel Heights Improvement Assn. v. Regents of University of California*, *supra*, 47 Cal.3d at p. 425.)

In the case at hand, HCD's two previous attempts to prepare an EIR on a statewide approval of CPVC were abandoned and declared incomplete. The proposal to now use an Addendum to address statewide approval would circumvent full

compliance with CEQA and undermines the integrity of the decision making process. HCD must withdraw the addendum and finally complete an EIR on CPVC if it intends to move toward its statewide approval in conformance with CEQA.

The use of an Addendum in lieu of an EIR is permitted in only very narrow circumstances. Indeed, an expansive reading of the addendum exception would subvert the entire CEQA process and make a mockery of the prohibition against piecemealing projects. As discussed fully, *infra*, in Section III.D, the statewide approval of CPVC does not fall within this narrow exception. Rather, statewide approval of CPVC must be treated as a new project and subjected to the usual CEQA process.

**F. A Fair Argument Exists That the Expanded Use of CPVC May Have a Significant Effect on the Environment Even With the Proposed Mitigation Measures**

Prior to approval of the 2000 MND on the limited project, HCD had twice determined in Initial Studies that the statewide approval of CPVC would have numerous potentially significant effects on the environment and would require the preparation of an EIR. Furthermore, HCD twice initiated an EIR process on the statewide approval of CPVC, only to abandon the process prior to completion. Having twice determined that an EIR must be prepared to study the potential impacts of statewide CPVC approval, HCD cannot now “unring the bell” and claim that the statewide approval of CPVC does not require the preparation of an EIR.

Furthermore, the evidence in the record, along with the expert comments and studies attached to this letter, overwhelmingly demonstrate that that the proposed statewide approval of CPVC may have a significant effect on the environment even with the proposed mitigation measures. As discussed in more detail later in this document, these impacts include:

- Worker Health & Safety Impacts
  - 1989 Department of Health Services Study concluded that the use of CPVC solvents and cements exposes workers to harmful chemicals such as THF and MEK at levels exceeding established workplace standards.
  - Exposure occurs through inhalation and dermal absorption.
  - Most gloves offer no protection against dermal absorption of THF. The recommended Nitrile gloves only protect against THF for 20 minutes.
  - Ventilation and glove-use requirements will not reduce these risks below a level of significance.
  - Recent studies have determined that where CPVC has been approved on a limited basis, enforcement and implementation of

ventilation and glove-use requirements has been virtually non-existent.

- Contamination of drinking water
  - CPVC pipe leaches chemicals such as THF, MEK, acetone and organotins (including tributyltin) into drinking water.
  - Proposed flushing mitigation is inadequate and unenforceable.
  - Public is exposed both through consumption and through inhalation and skin exposure during bathing.
  - Aquatic toxicity concerns – organotins (and particularly tributyltin) are toxic to many aquatic animals. Most water treatment plants leave significant amounts of organotins in the effluent discharged into receiving waters.
- Air Quality Impacts
  - Widespread use of CPVC solvents and cements will result in VOC emissions in exceedance of standards of significance.
- Manufacturing Impacts
  - CPVC pipe, fittings, cements and solvents are manufactured in California.
  - Increased manufacturing of these products will result in significant air quality and worker health and safety impacts.
  - The manufacture of CPVC pipe and fittings results in the release of dioxins.
- Solid Waste Impacts
  - CPVC pipe is not a recyclable plastic and is considered a “contaminant” in the waste stream.
  - Copper piping is completely recyclable.
- Fire Hazard Impacts
  - CPVC pipe releases dioxins and toxic smoke when burned.
  - CPVC pipe makes residential fires, plastic incinerators and landfill fires significantly more dangerous.

The draft Addendum to the Mitigated Negative Declaration must be withdrawn and an EIR prepared and circulated for public review and comment.

## **II. PREVIOUS ENVIRONMENTAL REVIEWS DEMONSTRATE THAT PLASTIC PIPE USE MAY CAUSE SIGNIFICANT IMPACTS ON PUBLIC AND WORKER HEALTH AND THE ENVIRONMENT**

In the past, product manufacturers and trade associations have proposed approval of new plastic plumbing products for use in California. Plastics vary widely in their chemical composition and, as a result, can have significantly different properties. Some plastics may be suitable for drinking water pipe, while others are suitable for use as drain or vent pipe. Some plastic materials have the potential to leach toxic chemicals into drinking water, some are too flammable and

others degrade too quickly, causing plumbing systems to rupture. The suitability of a plastic pipe for a proposed use can only be determined by understanding its chemical components and by conducting and analyzing appropriate tests, depending on the proposed use.

CEQA review has served a vital function in California by revealing otherwise undisclosed problems with plastic pipe products and allowing the state to impose appropriate limitations and conditions on the use of these products. As a result, California has avoided problems and damages from the unregulated use of these materials that have befallen other states without statutes similar to CEQA.

#### **A. CEQA Review of CPVC Plastic Pipe Led to its Restricted Use**

In the case of CPVC, the environmental review process studies prepared in the 1980s caused the manufacturers to reformulate the product in an attempt to address public health hazards by reducing or eliminating the use of chloroform as a swelling agent during manufacture. (Appendix 54, p. 19.) Although the manufacturers claimed that the use of chloroform was not hazardous, they nonetheless engaged in a determined effort to reduce the levels of chloroform in the pipe.

Past environmental studies also caused the state to limit the circumstances under which CPVC can be used. (CPC § 604.1.2.) The state also required certain public and worker health mitigation measures with CPVC use. (*Id.*; CPC Appendix I, §§ 301.0.1.1 & 301.0.2.1.)

Without the environmental review already conducted, Californians would likely be drinking water from CPVC pipe that was contaminated with chloroform and other carcinogenic and toxic materials, and workers would suffer even higher levels of exposure to toxic chemicals in the solvents used to join the pipes. HCD, however, now wishes to abandon environmental review of CPVC altogether despite the numerous benefits that such review has already provided to public and worker health and safety.

#### **B. The Disaster of Polybutylene Plastic Pipe Was Largely Avoided in California**

CPVC is not the only example of the benefits of a genuine, complete and objective review of plastic drinking pipe materials prior to statewide approval. Polybutylene ("PB") plastic pipe was another plastic product that was touted as safe and effective by its manufacturer, the Shell Chemical Company. The use of PB for carrying drinking water was first proposed for inclusion in the CPC in 1982 at the same time that CPVC was first proposed for inclusion. (See Appendix 5, Appendix

101.) As with CPVC, HCD determined that an environmental review of PB was necessary prior to approval in the California Plumbing Code.

During the environmental review of PB, expert testimony showed that PB pipe included anti-oxidants, which were designed to prevent degradation of the plastic caused by oxidants. Questions were raised about the ability of these anti-oxidants to protect the PB pipe, and it was suggested, in expert testimony, that it could be degraded by chlorine and oxygen, causing loss of strength, brittleness, and ultimately, premature mechanical failure. (See Appendix 54, p. 34.) Studies were also conducted showing that PB may leach toxic chemicals into drinking water. (*Leonardini v. Shell Oil Co.* (1989) 216 Cal.App. 3d 547, 557.)

Shell vehemently disputed this testimony and claimed in written submittals to HCD that PB had a performance life of fifty years. Shell attacked members of the public (including Coalition member, the California Pipe Trades Council, and its then attorney, Mr. Leonardini) for suggesting that PB could leach toxic chemicals into drinking water. Shell went so far as to sue Mr. Leonardini for trade libel, based on these criticisms of PB. (*Leonardini v. Shell Oil Co.* (1989) 216 Cal.App. 3d 547.)

Although the Department persisted in requiring environmental review of PB before authorizing its use statewide, San Diego unfortunately took advantage of a statutory provision allowing it to approve PB in limited circumstances (Health & Safety Code § 17958.5), and approved its use. While the state's environmental review was proceeding, PB began to degrade and to fail spectacularly all across the United States, drenching homes with water, including homes in San Diego, and causing enormous damage. (Appendix 54, pp. 31-32.)

Because of the dramatic and extensive problems with PB, California never approved it for use statewide, and the Uniform Plumbing Code withdrew its approval of PB. Shell was sued across the nation, as well as in San Diego, where class-action lawsuits were filed on behalf of 60,000 homeowners with failing PB pipe. (See Cox v Shell Nationwide Class Action Settlement Website <<http://www.pbpipe.com>> (as of April 20, 2004).) Shell withdrew the product from the marketplace and stopped all manufacture of the pipe. It is estimated that more than one million American homes may eventually suffer problems with PB failures. (*Id.*)

Shell ultimately agreed to a one billion dollar settlement of the claims. (*Id.*) Further, Mr. Leonardini won a spectacular five million dollar judgment against Shell for malicious prosecution of the trade libel claim. (*Leonardini v. Shell Oil Co.* (1989) 216 Cal.App. 3d 547, 555.)

The Department's action in requiring CEQA review of PB, despite enormous pressure from Shell, saved most Californians from millions of dollars of damage to their homes from unsuitable plastic pipe water lines.

### **C. CEQA Review Has Revealed Problems With Other Plastics**

Other plastic materials, such as acrylonitrile butadiene styrene ("ABS") and polyvinyl chloride ("PVC") have been proposed for various plumbing uses, including use as drain, waste and vent pipe. (See Appendix 54.) As with CPVC and PB, serious issues were raised about their safety, including the potential for a mechanical failure of ABS pipe due to use of reprocessed resins. (Id. at p. 36.)

The ABS manufacturers disputed these claims and asserted that the material was sound. By 1990, however, the decision to require CEQA review of ABS Plastic pipe was proven prudent when numerous buildings that had been permitted to use ABS experienced extensive failures leading to numerous consumer lawsuits and class action claims for damages. As a result, the state took action to regulate ABS use and mentioned the California Plumbing Code restrictions on its use. (Health & Safety Code § 17921.7.)

### **D. The State's Conservative and Deliberate Course Has Saved Californians From the Damages Suffered in Other Jurisdictions**

The past environmental review of new plastic pipe products in California has saved this state from the problems and damages that unregulated use of plastic pipe materials has caused in other jurisdictions. Such review has revealed previously unexamined or undisclosed hazards and has resulted in changes in manufacturing practices and the imposition of mitigation measures to reduce impacts on the public and on workers. To abandon this conservative and deliberate course of environmental review at this juncture would unnecessarily jeopardize public health and safety and would be contrary to California law.

## **III. OVERVIEW OF THE CEQA PROCESS AND STANDARD OF REVIEW**

### **A. Determination of Whether an EIR Is Required**

CEQA requires that a public agency prepare an EIR on any activity it undertakes or approves which may have a significant impact on the environment. CEQA has a three-step process to determine if and how an agency must comply with the requirement to prepare an EIR. (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 74; 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(k).)

## 1. CEQA Project

First, the agency determines if the activity in question is a "project" that concerns CEQA. CEQA defines "project" broadly as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (CEQA Guidelines § 15378(a).) "Project," as defined by CEQA, encompasses the promulgation and alteration of regulations or rules when such promulgation or alteration would have a potentially significant impact on the environment. (*Dunn-Edwards Corp. v. Bay Area Air Quality Management District* (1992) 9 Cal.App.4th 644, 655; *Dunn Edwards Corp. v. South Coast Air Quality Management District* (1993) 19 Cal.App.4th 519; *Ultramar, Inc. v. South Coast Air Quality Management District* (1993) 17 Cal.App.4th 689). Regulations that approve plastic pipe for use in California have been explicitly included in the definition of "project" because such regulations "may have a reasonably foreseeable indirect environmental impact." (*PPFA v. CBSC*, 124 Cal.App.4th at 408.)

Additionally, CEQA requires the lead agency to consider the impacts of the entire action and prohibits the division of a single project into two or more pieces, each with a comparatively lessened environmental impact. (*Citizens Ass'n for Sensible Devel. of Bishop Area v. Inyo* (1985) 172 Cal.App.3d 151, 165-166.) California courts disfavor attempts to piecemeal CEQA projects: "A narrow view of project could result in the fallacy of division, that is, overlooking its cumulative impact by separately focusing on isolated parts of the whole." (*McQueen v. Bd of Dir. of the Mid-Peninsula Reg. Open Space Dist.* (1988) 202 Cal.App.3d 1136, 1144.) An agency may not piecemeal a project, and "must include an analysis of the environmental effects of future expansion or other action if: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its initial effects." (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 393-396; *See also Mountain Lion Coalition v. Calif. Fish & Game Comm'n*, (1989) 214 Cal.App.3d 1043, 1048.)

## 2. Initial Study

Second, the agency must determine whether the project may have significant environmental effects by preparing an initial study. (CEQA Guidelines § 15063(a).) An initial study is a preliminary analysis used to determine whether an EIR must be prepared. (CEQA Guidelines §§ 15063, 15365.) An agency preparing an initial study must consult with all responsible agencies and all trustee agencies responsible for resources affected by the project to obtain the recommendations of those agencies as to whether an EIR or a Negative Declaration should be prepared. (CEQA Guidelines § 15063(g).) An initial study includes a project description, a description of the environmental setting, an identification of any environmental

effects, a discussion of possible mitigations measures, and an examination of project consistency with zoning regulations and other land use controls. (CEQA Guidelines § 15063(d).)

### **3. EIR Requirement**

At step three, the agency determines whether to prepare an EIR based on the initial study. CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR except in certain limited circumstances. (See, e.g., Pub. Resources Code § 21100.) An EIR is required if “there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment.” (Pub. Resources Code § 21080(d) (emphasis added); CEQA Guidelines § 15064; see also *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.) The EIR aids an agency in identifying, analyzing, disclosing, and, to the extent possible, avoiding a project’s significant environmental effects through implementing feasible mitigation measures. (Pub. Resources Code § 21002.1(a); CEQA Guidelines § 15002(a),(f).) The EIR acts as an “environmental ‘alarm bell’ whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return.” (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1220.)

As the Court of Appeal has explained:

“The EIR is intended to furnish both the road map and the environmental price tag for a project, so that the decision maker and the public both know, before the journey begins, just where the journey will lead, and how much they – and the environment – will have to give up in order to take that journey.”

(*Natural Resources Defense Council v. City of Los Angeles* (“NRDC v. LA”) (2002) 103 Cal. App. 4th 268, 271.)

### **B. Negative Declaration**

In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR, where the agency finds no substantial evidence that the project may have any significant effect on the environment. (Pub. Resources Code § 21080(c); CEQA Guidelines § 15063(b)(2), 15371.) An agency can prepare a negative declaration in lieu of an EIR only if there is not even a “fair argument” that the project will have a significant environmental effect. (Pub. Resources Code §§ 21100, 21064.) Since “[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process,” by allowing the agency “to dispense with the duty [to prepare an EIR],” negative

declarations are allowed only in cases where “the proposed project will not affect the environment at all.” (*Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.)

In certain circumstances, a project with potentially significant impacts can be modified by a project proponent to reduce the impacts to a level of insignificance. In such cases, an agency may satisfy its CEQA obligation by preparing a Mitigated Negative Declaration (MND). (Pub. Resources Code § 21064.5; CEQA Guidelines § 15064(f)(2).) If an agency adopts a MND, it must then take affirmative steps to ensure that the approved mitigation measures are implemented after project approval through a reporting and monitoring program. (Pub. Resources Code § 21081.6(a)(1); CEQA Guidelines § 15064(d).)

### **C. Modifying a Previous Negative Declaration: Addendum and Supplemental EIR**

When there are changes to a project previously approved in a negative declaration, the lead agency must document these changes either in a subsequent EIR or in an addendum to the negative declaration. An addendum to a negative declaration is appropriate “if only minor technical changes or additions are necessary,” or if there are no substantial changes to the project itself, to the project’s circumstances, or to information regarding the project that may involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects. (CEQA Guidelines §§ 15064(b), 15062.)

### **D. Standard of Review**

“The ‘foremost principle’ in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.” (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.)

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR except in certain limited circumstances. (See, e.g., Pub. Resources Code § 21100.) The EIR is the very *heart* of CEQA. (*Dunn-Edwards v. BAAQMD, supra*, 9 Cal.App.4th at 652.) A negative declaration may be prepared instead of an EIR when, after preparing an initial study, a lead agency determines that a project “would not have a significant effect on the environment.” (*Id.*, Pub. Resources Code § 21080(c).) However, such a determination may be made only if “[t]here is no substantial evidence in light of the whole record before the lead agency” that such an impact may occur. (*Id.*, Pub. Resources Code § 21080(c)(1).)

A negative declaration is improper, and an EIR is required, whenever substantial evidence in the record supports a “fair argument” that significant impacts may occur. Even if other substantial evidence supports the opposite conclusion, the agency nevertheless must prepare an EIR. (*Stanislaus Audubon v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-151; *Quail Botanical Gardens v. City of Encinitas* (1994) 29 Cal.App.4th 1597.) The “fair argument” standard is an exceptionally “low threshold” favoring environmental review in an EIR rather than a negative declaration, which terminates the environmental review. (*Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 928.) The “fair argument” standard requires preparation of an EIR if any substantial evidence in the record indicates that a project may have an adverse environmental effect. (CEQA Guidelines § 15064(f)(1); *Pocket Protectors v. City of Sacramento*, *supra*, 124 Cal.App.4th at 931.) Under the “fair argument,” CEQA always resolves the benefit of the doubt in favor of the public and the environment.

As a matter of law, “substantial evidence includes ... expert opinion.” (Pub. Resources Code § 21080(e)(1); CEQA Guidelines § 15064(f)(5).) As a leading CEQA treatise explains: “when experts disagree over the significance of an impact, the lead agency must treat the effect as significant and prepare an EIR.” (Kostka & Zischke, *Practice Under the California Environmental Quality Act*, § 6.51, citing CEQA Guidelines § 15064(g), see also, § 15064(f)(5).)

As discussed below, there is much more than a fair argument that CPVC pipe may have a number of significant adverse environmental effects. These effects include leaching toxic chemicals into drinking water, releasing large amounts of toxic and ozone-forming chemicals into the air, releasing toxic chemicals into receiving waters, clogging landfills with unrecyclable wastes, exposing workers to toxic chemicals released from cements and primers used to install CPVC, generation of harmful chemicals during CPVC manufacture as well as other impacts. Most of these impacts have not been addressed or examined by HCD at all, while others have been identified as a result of new information that has become available since the 2000 MND was published.

CEQA requires that these impacts be analyzed in an EIR to inform the public and public decision makers of the potential impacts, to consider alternatives to the CPVC approval, and to consider mitigation measures to reduce these and other harmful impacts. (See, *Security Environmental Systems v. South Coast Air Quality Management District* (“*Security Environmental Systems v. SCAQMD*”) (1991) 229 Cal. App. 3d 110.)

#### IV. THE USE OF THE ADDENDUM FOR THE APPROVAL OF THE EXPANDED USE OF CPVC IS IMPROPER

HCD makes the strained argument that it does not have to prepare an EIR for the universal statewide approval of CPVC, (allowing CPVC to be used in potentially every new and re-piped home in the state), because it certified a negative declaration for an entirely different project in 2000, (the limited approval of CPVC only in areas with soil or water so corrosive that it will cause the premature failure of metallic pipe). HCD contends that the relaxed standard of CEQA Guidelines section 15162 (the regulation under CEQA section 21166), applying to addenda to negative declarations applies, rather than the typical "fair argument" standard of CEQA Guidelines section 15064, subdivision (f)(1).

HCD's use of the narrow addendum exception is fundamentally mistaken because the current universal statewide approval of CPVC is a different "project" from the limited approval in 2000. The universal statewide approval of CPVC is a new project requiring an EIR, and not a modification to the 2000 project, because it is not "*within the scope*" of the 2000-limited approval, and because it is not "*essentially the same project*" as the 2000 approval. (*Sierra Club v. Sonoma* (1992) 6 Cal.App.4<sup>th</sup> 1307 at 12320-1321 (emphasis added.)) Use of an addendum is therefore improper. (*Id.*)

According to industry sources provided by HCD, the 2000-limited approval of CPVC has resulted in the use of CPVC in just two to four percent of the plumbing installations installed in California every year. By contrast, the proposed universal statewide approval would allow the use of CPVC in 100 percent of the state's residential development. This is a 25-fold increase in the use of CPVC. Under such statewide approval, all local building officials would be required to permit the use of CPVC in any residential building within their jurisdiction.

Furthermore, the current limited approval of CPVC affords local building officials the discretion to deny the use of CPVC even where a finding of premature failure of metallic pipe has been made. The proposed universal statewide approval of CPVC, however, would remove this discretionary language and would thus require local building officials to allow the use of CPVC in all residential buildings.

The current approval is fundamentally different from and far beyond the scope of the 2000-limited approval. It is clearly not "*essentially the same project*." An EIR is therefore required to analyze the universal statewide approval of CPVC.

Not only is HCD's argument contrary to well-established CEQA law, but such a holding would render CEQA a dead letter. Under HCD's interpretation, any agency could evade CEQA review simply by "piecemealing" every project. The first phase would be a small piece of a larger project (for example two homes out of a

1000 unit residential development), which would appear to have no significant impact, and would therefore be subject to a negative declaration. The second phase would be the remainder of the project (the remaining 998 homes), which would be approved pursuant to an addendum to the negative declaration.

The courts have consistently rejected precisely such attempts to avoid CEQA by first “getting the camel’s nose under the tent” with a negative declaration, and later following with an addendum for the rest of the camel. For example, in *Arviv Enterprises v. South Valley Area Planning Commission* ((2002) 101 Cal. App. 4th 1333), the court rejected an attempt of a housing developer to divide a 21-home development into several smaller pieces -- first 5 homes, then 2 homes, then 14 homes, each with successive mitigated negative declarations. The court held that the applicant had improperly described the project and that a single EIR was required to analyze and mitigate the effects of the entire 21-home development. The Court stated:

“The significance of an accurate project description is manifest, where, as here, cumulative environmental impacts may be disguised or minimized by filing numerous, serial applications. However, “environmental considerations do not become submerged by chopping a large project into many little ones-- each with a minimal potential impact on the environment--which cumulatively may have disastrous consequences.”

(*Id.* at 1346.)

**A. HCD Cannot Rely on the 2000 MND Because the Universal Statewide Approval of CPVC Is Beyond the Scope of the Limited Approval of CPVC Analyzed in the 2000 MND**

A prior CEQA document can only be relied upon for a subsequent project if the subsequent project is “*within the scope*” of the prior project. If the new action is not “within the scope” of the prior action, then it is a new “project” within the meaning of CEQA, requiring new CEQA review. As the Court of Appeal explained in *Sierra Club v. Sonoma*, Public Resources Code section 21166 (governing CEQA addenda) applies only when the later “project was either the same as or *within the scope* of the project, program or plan described in the [prior CEQA document].” (*Sierra Club v. Sonoma*, 6 Cal.App.4th at 1321; *see also*, *Burbank-Glendale-Pasadena Airport v. Hensler* (1991) 233 Cal.App.3d 577, 594 (new EIR required because prior EIR was prepared for a “substantially different” project).) In *Sierra Club*, the court held that a gravel-mining project was not within the scope of a prior EIR that analyzed the impacts of gravel mining generally. Thus, a new EIR was required for the gravel mine.

CEQA Guidelines section 15162 and CEQA section 21166 only apply to projects that have had minor modifications, not to new projects. (*Id.*) The definition

of a “project” under CEQA is an issue of law owing no deference to agency opinion. (*Fullerton Joint Union High School Dist. v. State Bd of Educ.* (1982) 32 Cal. 3d. 779, 795.) Thus, it is irrelevant that HCD has concluded that the current action is a modification to the 2000-limited approval. A court would be required to review this determination *de novo*, and the law makes clear that the current action is a separate project subject to CEQA review.

When the scope of a project expands, it becomes a new project, subject to separate CEQA review, and the agency may not rely on a prior CEQA document. In *Apartment Ass’n of Greater Los Angeles v. City of Los Angeles* (“*Apartment Ass’n*”), (2001) 90 Cal.App.4<sup>th</sup> 1162) the City of Los Angeles adopted a permanent housing code enforcement program aimed at the repair of residential rental units found to be in violation of the City of Los Angeles’ building, safety, fire or health regulations. The permanent enforcement program replaced a nearly identical *interim* code enforcement program. (*Id.* at 1168.) The court held that the adoption of the permanent housing code enforcement program was a new “project” under CEQA because it was “*broader in scope*” than the interim enforcement program. (*Id.* at 1169.) The court held, “The very fact one was temporary and the other is permanent is enough to distinguish them because the environmental impact of a short-term program may be much less significant than a program of indefinite duration.” (*Id.*) The City thus could not rely on its prior CEQA document prepared for the interim program to escape CEQA review for the permanent program.

Similarly, in *Chamberlin v. City of Palo Alto*, the court held that a permanent traffic plan for a neighborhood was a separate CEQA project from a nearly identical six-month interim traffic plan for the same area. (*Chamberlin v. City of Palo Alto* (1986) 186 Cal.App.3d at 187.) The court held that even though the only difference between two plans was permanency, the City could not rely on the negative declaration prepared for the interim plan when adopting the permanent plan, and an EIR was required for the permanent plan. (*Id.*) The court noted that if the City were allowed to evade CEQA review by issuing a negative declaration for a short-term plan, and then approving the same plan on a broader permanent basis by relying on the prior negative declaration, then the approach suggested by City would result in precisely the sort of “piecemeal” environmental litigation prohibited by our Supreme Court in *Bozung v. Local Agency Formation Committee*. (*Id.*; *Bozung v. Local Agency Formation Committee* (“*Bozung v. LAFCO*”) (1975) 13 Cal.3d 263.)

The 2000 Mitigated Negative Declaration for the limited approval of CPVC pipe goes to great length to emphasize the limited nature of the approval. The MND expressly stated:

“because the local CPVC approval authority that would be granted by the proposed regulations requires findings of existing or expected metallic pipe

failure due to existing soil and water conditions, the potential scope of CPVC use that will result from the proposed project will be limited. Information in the record of previous HCD examinations of CPVC pipe indicates that corrosive drinking water is not a widespread problem in California. The evidence before the Lead Agency indicates that the problems with metallic pipe corrosion have been isolated and occurred significantly only in certain limited areas of the state where residential units are being served by underground water wells. Finally, no cities or counties have filed with HCD modifications or changes in California Plumbing Code provisions to approve CPVC pipe pursuant to Health and Safety Code section 17958.7. for these reasons, *the Lead Agency has concluded that the CPVC installations that may result from the proposed regulatory approval will be limited in scope.*" (2000 Initial Study, pp. 3-4 (emphasis added).)

Furthermore, the 2000 MND substantially relied on the "limited scope" of the project in concluding that its impacts would not be significant. For example, in evaluating air quality impacts from VOC emissions released from primers and cements, the MND states:

The Lead Agency anticipates that the CPVC installations that will result from this Project approval would be *limited in scope* because it will only be used in those jurisdictions where the local building official determines that there is or will be the premature failure of metallic pipe. . . .this determination is based on the *limited number of anticipated residential installations of CPVC that may be approved as a result of the proposed Project . . .*"

(2000 MND, Explanation of Checklist Judgments, p. 3.)

Based on this same determination regarding the limited number of CPVC installations that would be approved by the project, the Department concluded that every form of air quality impact would not be significant due to the "limited scope" of the 2000 approval, including conflicts with air quality plans, violation or contribution to air quality violation, cumulatively significant increases in criteria pollutants, exposing sensitive receptors to substantial pollutant concentrations, and creation of objectionable odors. (*Id.*, pp. 4 – 7.)

After going to such lengths to emphasize that the 2000 action would not have significant impacts precisely because of its "limited scope," HCD cannot now argue that its 2000 action was a statewide approval that is being subjected only to minor modifications. Data obtained from HCD indicates that less than 4% of homes have been plumbed annually with CPVC as a result of the 2000 approval. (Exhibit A ("Fox Comments"); Appendix 20.) By contrast, the current universal statewide approval would allow each and every new home and re-pipe job to be plumbed with CPVC. This is a 25-fold increase in the scope of CPVC usage – an increase of

2500%. As clearly demonstrated by the case law discussed above, the universal statewide approval of CPVC is a new project that is far beyond the “limited scope” of the 2000 MND. A new EIR is therefore required.

**B. HCD Cannot Rely on the 2000 MND Because it Did Not Analyze the Universal Statewide Approval of CPVC**

A prior CEQA document can only be relied upon for a subsequent project if the prior document actually analyzed the new project. As the court stated in *Sierra Club v. Sonoma*, “[Section 21166] appl[ies] only when the question is whether more than one EIR must be prepared for what is *essentially the same project*.” (*Sierra Club v. Sonoma, supra*, 6 Cal.App.4<sup>th</sup> 1307 (emphasis added).) As a leading CEQA treatise explains, “In the view of the authors of this book . . . the standards of section 21166 should not apply where a particular site-specific development project (“activity”) has not been the subject of an earlier EIR or negative declaration. . . .” (Remy, Thomas and Moose., *Guide to the California Environmental Quality Act* (“*Guide to CEQA*”), (Tenth Ed., 1999) p.550, citing *Sierra Club, supra*) In *Sierra Club v. Sonoma*, the court required a new EIR for a gravel mine, because its site-specific impacts had not been analyzed in the program-level EIR prepared to study gravel-mining impacts generally throughout the County.

Similarly, in *Natural Resources Defense Council v. Los Angeles*, the court refused to apply section 21166 to a project to expand the Port of Los Angeles, even though the expansion had been discussed in an EIR three years earlier. (*NRDC v. LA, supra*, 103 Cal.App.4<sup>th</sup> 268.) The court found that since the project was not “*specifically addressed in the [prior] EIR . . . it cannot be considered part of the overall ‘project’ addressed in those documents.*” (*Id.* at 285.) Thus, the “fair argument” standard applied and an EIR was required for the new phase of the Port expansion project.

In this case, the environmental impacts of the universal statewide approval of CPVC were deliberately and expressly not analyzed in the 2000 mitigated negative declaration. As discussed above the 2000 MND went to great lengths to discuss the “limited scope” of the 2000 project, and therefore expressly did not analyze the impacts of universal statewide approval of CPVC. Indeed, the Department’s determination in the 2000 MND that the project would not have significant effects was based on the limited scope of CPVC installations being approved. Therefore, HCD cannot rely on the 2000 document to avoid environmental review of the current action to approve CPVC installations statewide.

**V. HCD HAS NOT MET THE CRITERIA SET FORTH IN SECTION 15162**

CEQA Guidelines section 15162, subdivision (a) states:

“When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
  - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.”

As discussed above, CEQA Guidelines section 15162 does not apply to the universal statewide approval of CPVC at all because it is a different "project" that is beyond the scope of the limited approval discussed in the 2000 MND. Since no CEQA document has been completed for the current "project," section 15162 cannot apply. The court owes no deference to HCD in determining the definition of the CEQA "project," and the case law makes clear that the current action is a different "project" from the action analyzed in the 2000 MND.

**A. HCD May Not Rely on the 2000 MND Because Substantial Changes Are Proposed in the Project Which Will Require Major Revisions of the Previous Negative Declaration Due to the Involvement of New Significant Environmental Effects or a Substantial Increase in the Severity of Previously Identified Significant Effects**

Section 15162 does not apply to the universal statewide approval of CPVC plastic drinking water pipe because "substantial changes are proposed in the project which will require major revisions of the previous negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects."

As discussed above, the 2000 MND concluded that many of the impacts of the project would not be significant due to the "limited scope" of the limited approval of CPVC only in areas with corrosive water. Also as discussed, the 2000 approval allowed the use of CPVC only in approximately 4% of new and re-piped homes in the state. By contrast, the currently proposed universal statewide approval of CPVC will authorize the use of CPVC in 100% of new and repiped homes throughout the state. This 25-fold expansion in the scope of the project will result in a 25-fold increase in the severity of its impacts.

For example, as discussed by Dr. Fox, the 2000 approval resulted in airborne VOC emissions of only 126 pounds per day (33 homes per day plumbed with CPVC times 3.81 pounds per home). (Exhibit A) ("Fox Comments") at p. 43, fn 68.) The current approval may result in airborne VOC emissions of 3,246 pounds per day (852 units per day times 3.81 pounds per unit) - 25 times greater than the 2000 approval. (Fox Comments, pp. 1-2). This is clearly a "significant increase in the severity" of a significant effect. Similarly, emissions from factories manufacturing CPVC pipe, fittings, cements, solvents and primers may also increase 25-fold as a result of the current project. (See comments of CEH; and comments of Dr. Fox at (Fox Comments, pp. 1-2); see also, *Building Code Action v. Energy Resources Conservation and Devel. Comm.* (1980) 102 Cal. App. 3d 577 (lead agency must analyze under CEQA manufacturing-related impacts of building materials actions)). Since CPVC is not recyclable, CPVC waste will go largely to landfills and incinerators. The current universal statewide approval may result in a 25-fold

increase in the waste disposal impacts of CPVC. Finally, the 25-fold increase in the installation of CPVC will dramatically increase the cumulative and long-term cumulative impacts on worker health and safety, as workers are exposed to CPVC solvents more often as CPVC is installed more often. (See Exhibit C ("Bellows comments"); Appendix 6; Appendix 28.)

As these examples demonstrate, expanding the scope of CPVC usage by up to 25-times will substantially increase the severity of the project's significant effects. An addendum to the 2000 MND is therefore inappropriate.

**B. HCD May Not Rely on the 2000 MND Because There Have Been Substantial Changes With Respect to the Circumstances Under Which the Project Is Undertaken Which Will Require Major Revisions of the Previous Negative Declaration Due to the Involvement of New Significant Environmental Effects or a Substantial Increase in the Severity of Previously Identified Significant Effects**

The lead agency may not rely on a prior EIR when there have been changes in the circumstances under which a later project is to be undertaken. (CEQA Guidelines § 15162(a)(2).) For example, in *Mira Monte Homeowners v. County of Ventura*, the court held that a further EIR was required because impacts on wetlands would be more severe than previously believed. (*Mira Monte Homeowners v. County of Ventura* (1985) 165 Cal.App.3d 357; see also, CEQA Guidelines § 15177(a) (Master EIR may not be used for subsequent project unless lead agency finds that "no substantial changes have occurred with respect to the circumstances under which the Master EIR was certified, or that there is no new available information which was not known and could not have been known at the time the Master EIR was certified").)

In *Concerned Citizens of Costa Mesa v. 32<sup>nd</sup> Dist.*, the Supreme Court held that CEQA section 21166 and CEQA Guidelines section 15162 did not apply because of "substantial changes" to a project. Costa Mesa involved a music amphitheater that had undergone CEQA review. (*Concerned Citizens of Costa Mesa v. 32<sup>nd</sup> Dist.* (1986) 42 Cal. 3d 929.) Months later, the developer changed the orientation of the amphitheater such that it now faced a residential community. The Supreme Court held that since the project changes would increase noise impacts on the residential community, sections 21166 and 15162 did not apply and a new EIR would be required.

Similarly, in the instant case, the project changes proposed by HCD will drastically increase the severity of the impacts of CPVC pipe. As discussed above, air quality, waste disposal, manufacturing, and other impacts may be increased by 25 times above those discussed in the 2000 MND for limited CPVC approval. Since

the project changes proposed will dramatically increase the severity of the project's impacts, an EIR is required and sections 21166 and 15162 would not allow the use of a simple addendum.

**C. HCD May Not Rely on the 2000 MND Because New Information of Substantial Importance, Which Was Not of Reasonable Diligence at the Time the Previous Negative Declaration Was Adopted, Shows That the Approval of CPVC May Have Significant Adverse Impacts**

HCD may not rely on a prior CEQA document when there is new information of substantial importance that was not known at the time of the prior document showing that significant effects of the Project will be substantially more severe than shown in the prior CEQA document. (CEQA Guidelines § 15162(a)(3); see, *Sierra Club v. Gilroy* (1990) 222 Cal.App.3d 30, 34 (presence of rare species on project site identified after prior EIR certified necessitated preparation of new EIR); *Security Environmental Systems v. South Coast Air Quality Management District*, *supra*, 229 Cal.App.3d at 124 (after an EIR for an incinerator was prepared, new scientific information was published showing that dioxin emissions from the incinerator would be far more hazardous than previously believed; the court held that a new EIR was required for re-permitting of the same incinerator to analyze the new toxicity data, and to evaluate whether any additional mitigation measures were appropriate in light of the new data); *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180 (prior CEQA document did not analyze previously unidentified significant effects, and therefore new EIR required).)

In the case at hand, new air quality standards have been adopted since 2000 as a result of new scientific information. Dr. Fox explains that a substantial amount of important new research has been published, documenting new health impacts at much lower concentrations and for different size fractions of particulate matter than was previously known and reflected in ambient air quality standards on larger sizes of particulate matter (PM10). (Fox Comments.<sup>3</sup>) This new information led the U.S. EPA and California to adopt ambient air quality standards on PM2.5 and to California lowering its PM10 standard.

This new research documents that the inhalation of particulate matter, particularly the smallest particles, causes a variety of health effects, including premature mortality, aggravation of respiratory (e.g., cough, shortness of breath, wheezing, bronchitis, asthma attacks) and cardiovascular disease, declines in lung function, changes to lung tissues and structure, altered respiratory defense mechanisms, and cancer, among others. Concentrations of PM10 and PM2.5 above current standards may result in harmful health effects. (Fox Comments.)

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<sup>3</sup> U.S. EPA, Air Quality Criteria for Particulate Matter, Second External Review Draft, March 2001.

The U.S. EPA promulgated a national ambient air quality standard for PM<sub>2.5</sub> that did not become effective until Feb. 27, 2001, when it was upheld by the US Supreme Court. (*Whitman v. American Trucking Assoc.* (Feb. 27, 2001) 531 U.S. 457.) On April 15, 2004, U.S. EPA designated all or parts of 35 counties in California as nonattainment for the new federal 8-hour ozone standard effective June 15, 2005. (Fox Comments.)

This standard and these classifications did not exist when the 2000 MND was adopted. The Central Valley and the South Coast, where most of the residential housing growth is occurring, have the worst particulate matter pollution in the state. (Fox Comments.) Dr. Fox explains the Project will generate significant amounts of particulate matter pollution. (Fox Comments.) Since the severity of these impacts was not known at the time of the 2000 MND, a new EIR is required to analyze the Project. (*Security Environmental Systems v. SCAQMD*, *supra*, 6 Cal.App.4<sup>th</sup> 1307; 15162(a)(3) (new EIR is required when “New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following: (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration.”).)

In addition, new evidence has been submitted demonstrating that mitigation measures to prevent drinking water contamination adopted in the 2000 MND and proposed for adoption in the Addendum are not sufficiently adequate, feasible or enforceable enough to eliminate the potential for significant impacts from leaching. (See section IX.A, *infra*; Exhibit B (“Reid Comments”); Appendix 25 (Capitolo Report); Appendix 27 (Calone Report).) New evidence has also been submitted of actual, systematic non-compliance with the proposed ventilation and glove-use mitigation measures, demonstrating that these measures fail to reduce adverse impacts “to a point where clearly no significant effect” will result. (See Section IX.B, *infra*; Exhibit C (“Bellows Comments”); Appendix 25; Appendix 27.)

The courts have held that actual evidence of failure to enforce mitigation measures is considered new substantial evidence that adverse impacts may occur. (*Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872 at 876, 883 (evidence of past failure to enforce the mitigation measures for noise impacts imposed in a prior MND demonstrated that there may still be a significant impact even with the proposed mitigation measures).)

## VI. THE USE OF THE ADDENDUM REPRESENTS AN IMPROPER PIECEMEALING OF THE PROJECT

Moreover, HCD's use of the Addendum process is a blatant attempt to circumvent the requirements of CEQA through piecemealing. HCD first put the proverbial nose of the camel under the tent by approving a much smaller project (with less controversy and much smaller impacts) using a mitigated negative declaration. Now, HCD attempts to bring the entire camel into the tent by bootstrapping the vast majority of the project to the first mitigated negative declaration through the narrow "addendum" exception of CEQA. HCD's use of an Addendum combined with the 2000 MND in order to avoid preparing an EIR on the statewide approval of CPVC is a classic case of improper piecemealing.

CEQA prohibits such "piecemealing" since, by dividing a project up into two or more pieces each with a comparatively lessened environmental impact, it makes each phase appear less significant. (*Citizens Ass'n for Sensible Devel. of Bishop Area v. Inyo, supra*, 172 Cal.App.3d at 165-166.) This is precisely the error that the HCD has committed in this case.

CEQA mandates "that environmental considerations do not become submerged by chopping a large project into many little ones -- each with a minimal potential impact on the environment -- which cumulatively may have disastrous consequences." (*Bozung v. LAFCO, supra*, 13 Cal.3d at 283-84; *City of Santee v. County of San Diego*, (1989) 214 Cal.App.3d 1438, 1452.) Before undertaking a project, the lead agency must assess the environmental impacts of all reasonably foreseeable phases of a project. (*Laurel Heights Improvement Assn. v. Regents of University of California, supra*, 47 Cal.3d 376pp. 396-97 (EIR held inadequate for failure to assess impacts of second phase of pharmacy school's occupancy of a new medical research facility).) A public agency may not segment a large project into two or more smaller projects in order to mask serious environmental consequences. As the Second District very recently stated:

"The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. . . the purpose of CEQA is not to generate paper, but to compel government at all levels to make decision with environmental consequences in mind."

(*NRDC v. LA, supra*, 103 Cal.App.4th 268, 284.)

For more than twenty years, HCD has determined that statewide approval of CPVC requires the preparation of an EIR. However, by piecemealing the approval of CPVC into a two-phase project, HCD now attempts to claim that an EIR on statewide approval need not be prepared. Because this is the second phase of a two-

phase project (first phase being approval of CPVC in areas with corrosive water or soil; second phase being approval in all other areas of the state), HCD has improperly piecemealed the project.

CEQA prohibits such a "piecemeal" approach even where one of the phases has already undergone environmental review. (*NRDC v. LA, supra*, p. 284.) In fact, it was precisely such piecemealing that was rejected by the Second District in the *NRDC v. LA* case. In that case, the Port of Los Angeles analyzed Phase 2 of a three-phase project in a negative declaration. The court held that an EIR was required to analyze the entire three-phase project as a whole. (*Id.*) Similarly here, the fact that the very limited approval of CPVC in 2000 was approved by a mitigated negative declaration does not negate the requirement for preparing an EIR on the statewide approval of CPVC.

By chopping up the approval of CPVC into two phases, each of which is alleged to have little or no adverse impacts, HCD is conducting precisely the type of piecemeal analysis prohibited by CEQA.

## **VII. HCD'S PRIOR DETERMINATIONS THAT STATEWIDE APPROVAL OF CPVC REQUIRES THE PREPARATION OF AN EIR BAR HCD FROM NOW HOLDING THAT AN EIR IS NOT REQUIRED**

Prior to 2000 MND on the *limited* approval of CPVC, HCD had twice determined in Initial Studies that the *statewide* approval of CPVC would potentially have numerous significant effects on the environment and would require the preparation of an EIR. Furthermore, HCD twice initiated an EIR process to consider the impact of statewide approval of CPVC, only to abandon each process prior to completion of a final certified document.

HCD now seeks statewide approval of CPVC by relying upon the limited and narrow 2000 MND in lieu of completing the EIR previously determined to be necessary for statewide approval. In relying upon the limited addendum exception of CEQA to avoid the preparation of an EIR, HCD is trying to *unring the bell* of its previous determinations in the 1982 and 1997 Initial Studies that an EIR is necessary prior to statewide approval of CPVC.

Such procedural machinations have been held improper. An agency may not conclude that a project may have significant impacts and then, when such admission is no longer convenient, simply change its conclusion to better suit its needs. (*Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4<sup>th</sup> 144, 154.)

The court in the case *Stanislaus Audubon Society, Inc. v. County of Stanislaus* rejected a county's argument that a revised initial study prepared by the county which contradicted the findings of the first initial study had "relegated the first initial study to oblivion." (*Id.*) The court stated, "We analogize such an untenable position to the unringing of a bell. The first initial study is part of the record. The fact that a revised initial study was later prepared does not make the first initial study any less a record entry nor does it diminish its significance...." (*Id.*)

Here, the Initial Study prepared by HCD in 1982 examined the evidence before it and concluded that the approval of CPVC might have numerous significant effects on the environment including contamination of drinking water, worker exposure to toxic solvents, increased air emissions and increased fire hazards. (Appendix 6.) Based upon these findings, the Initial Study held that an EIR was required prior to the statewide approval of CPVC.<sup>4</sup> A draft EIR based upon this Initial Study was prepared in 1989, but was never completed.

HCD prepared a new initial study in 1997. The new initial study again found that statewide approval of CPVC "may have a significant effect on the environment, and an Environmental Impact Report is required." (Appendix 17.) Based upon the record of the prior proceedings and other evidence before it, the 1997 Initial Study concluded that the proposed statewide approval of CPVC would result in potentially significant impacts on air quality, water quality, solid waste, worker health and safety, public health, and fire hazards. (*Id.*) In 1998, an EIR was prepared based upon this initial study, but again was not completed.

The conclusions from HCD's 1982 and 1997 Initial Studies themselves create a "fair argument" that the statewide approval of CPVC may have significant impacts, even if the Addendum's findings to the contrary were supported by substantial evidence. (See *Stanislaus Audubon Society, Inc. v. County of Stanislaus*, *supra*, 33 Cal.App.4<sup>th</sup> at 154; *Gentry v. Murietta* (1995) 36 Cal.app.4<sup>th</sup> 1359 (petitioner may rely on statements made in initial study to establish fair argument, even in the face of contradictory evidence).)

The fact that the Addendum now proposes some mitigation measures to reduce the risk of drinking water contamination and to reduce worker health hazards is immaterial. Even assuming arguendo that these mitigation measures would be effective,<sup>5</sup> these measures fail to address many of the other substantial impacts that the 1982 and 1997 Initial Studies found might result from statewide approval. For example, no mitigation measures are proposed to reduce the substantial impacts on air quality, solid waste or fire hazards that the prior Initial Studies identified as potential results of the statewide approval of CPVC. Under the court's holding in

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<sup>4</sup> The 1982 Initial Study also examined the proposed statewide approval of PE plastic pipe.

<sup>5</sup> As discussed fully in sections VII.A & VII.B, these mitigation measures are, in fact, *not* effective.

*Stanislaus Audubon Society, Inc. v. County of Stanislaus*, these prior determinations are determinative and require the preparation of an EIR.

The finding of no significant impacts in the 2000 MND is also immaterial since the 2000 MND considered a different, narrower and more limited project than considered by the 1982 and 1997 Initial Studies. The 2000 MND expressly acknowledges that “the potential scope of CPVC use that will result from the proposed project will be limited” because “corrosive drinking water is not a widespread problem in California.” (2000 MND, Initial Study, pp. 3-4.) Moreover, the 2000 MND goes out its way to repeatedly emphasize that its findings of no significant impacts are “based on the limited number of anticipated residential installations of CPVC that may be approved as a result of the proposed project.” (2000 MND, Initial Study, Explanation of Checklist, pp. 3, 4, 6, 7, 22; 2000 MND, Public Notice, pp. 1-2.) Accordingly, the 2000 MND neither contradicts nor supersedes the prior Initial Studies since it analyzes a different project.

Because the findings in the 1982 and 1997 Initial Studies are determinative, an EIR must be prepared.

## **VIII. THE ADDENDUM PROVIDES AN INADEQUATE AND MISLEADING PROJECT DESCRIPTION**

### **A. Legal Standard**

The Addendum is also legally deficient for failing to adequately describe the Project.

A negative declaration is legally defective if it fails to adequately describe the proposed project. (*Christward Ministry v. Superior Court*, *supra*, 184 Cal.App.3d 180; CEQA Guidelines §§15071(a), 15063(d)). “Project” means the whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately, . . .” (CEQA Guidelines § 15378 (a); *Citizens Ass’n for Sensible Devel. of Bishop Area v. Inyo*, *supra*, 172 Cal.App.3d at 165). The definition of a “project” under CEQA is an issue of law owing no deference to agency opinion. (*Fullerton Joint Union High School Dist. v. State Bd of Educ.*, *supra*, 32 Cal. 3d. at 795).

A project description “must be straightforward and intelligible, assisting the decision maker and the public in ascertaining the environmental consequences of doing nothing; requiring the reader to painstakingly ferret out the information from the reports is not enough.” (*Planning and Conservation League v. Dept. of Water Resources* (2000) 83 Cal. App. 4th 892, 911). The negative declaration must be more than a “token observance” of CEQA requirements. (*Council v. County of El Dorado*

(1982) 131 Cal. App. 3d 350, 357.) The courts will not countenance a “grudging and pro forma compliance” with environmental review requirements. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 742.) The “assessment of environmental impacts . . . must be genuine [and] open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a project.” (*County of Inyo v. City of Los Angeles*, 160 Cal.App.3d 1178, 1185; see also *Mira Monte Homeowners Assn. v. County of Ventura*, *supra*, 165 Cal.App.3d at p. 366.)

The courts have repeatedly held that “an accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient [CEQA document].” (*County of Inyo v. City of Los Angeles*, *supra*, 71 Cal.App.3d at 193; *City of Santee v. County of San Diego*, *supra*, 214 Cal.App.3d 1438.) The policy behind the requirement for a clear, accurate and complete project definition was cogently stated in *County of Inyo v. City of Los Angeles*:

“A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the ‘no project’ alternative) and weigh other alternatives in the balance.”

(*County of Inyo v. City of Los Angeles*, *supra*, 71 Cal.App.3d at p. 193; see also *City of Santee v. County of San Diego*, *supra*, 214 Cal.App.3d at pp. 1450-1455.)

CEQA provides that the negative declaration and initial study must “provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment.” (CEQA Guidelines § 15063(c)(5); *Sundstrom v. Mendocino* (1988) 202 Cal.App.3d 296.) The negative declaration must explain the basis and evidence relied upon for its conclusions. (*Sundstrom*, *supra*, 202 Cal.App.3d 296; *Citizens Assoc. for Sensible Devel. of Bishop Area v. County of Inyo*, *supra*, 172 Cal.App.3d at 171.) An important purpose of the initial study is to “[provide] documentation of the factual basis for the finding in a negative declaration that a project will not have a significant effect on the environment; . . .” (CEQA Guidelines § 15063 (c)(5).) The negative declaration “must also disclose the data or evidence upon which the person(s) conducting the study relied. Mere conclusions simply provide no vehicle for judicial review.” (*Citizens Ass’n for Sensible Devel. of Bishop Area v. Inyo*, *supra*, 172 Cal.App.3d at 171.)

## **B. The Addendum Fails to Adequately Describe the Massive Scope of the Proposed Project**

The Addendum fails to include basic information necessary to assess the impacts of the Project, and is purposely misleading as to the massive scope of the Project. Most egregiously, the Addendum repeatedly refers to the Project as a mere "removal of the Findings Requirement." (See, Addendum, p. 1, and *passim*). The Addendum contends that the removal of the Findings Requirement is a "minor technical change" to the 2000 MND prepared for HCD's action allowing CPVC only in areas with corrosive soil or groundwater.

The "Findings Requirement" referred to is the requirement in CPC section 604.1.2(a) that prior to the installation of CPVC water pipe in a residential structure, a local building official must make a finding that there is or will be a premature failure of metallic pipe due to corrosive soil or water conditions. Removal of this "Finding Requirement" is anything but a minor technical change. Less than 4% of residential structures have satisfied the Finding Requirement and installed CPVC drinking water pipe. (Fox Comments, p. 1-2.) By removing the Finding Requirement, CPVC use could increase from approximately 4% of housing to 100% of new and re-piped homes. (*Id.*). This is an increase of 25 times or 2500%. This will also increase many of the environmental impacts of CPVC by 2500%, as discussed more fully in the attached expert comments. (*Id.*) An increase in the scope of the Project of 2500% is simply not a minor technical change.

Removal of the Findings Requirement as proposed in the Addendum is rather like removing the "findings requirement" that a jury must "find" a person guilty before s/he is incarcerated, or the "findings requirement" that a polluter must be "found" to be in violation of the law before it is penalized. Indeed, almost all laws are based on "findings requirements" of various sorts. Removal of these "findings requirements," including the one at issue in the CPVC Addendum, would not constitute a minor technical change, but would constitute fundamental change in the nature of the proposed Project.

By repeatedly defining the Project as the mere removal of a Findings Requirement, the Addendum is blatantly and purposefully misleading. It fails to meet the basic requirements for accuracy of project description since the public is misled to believe the Project is merely a minor technical change to a previously approved project, when in fact it is a massive new Project that may expand the use of CPVC pipe throughout the state by 2500%.

**C. The Addendum Misleads the Reader Into Believing That the Congressionally-Created National Science Foundation Has Approved CPVC, When in Fact it Has Not, While the National Sanitation Foundation, Which Has Tested CPVC, Has Been Severely Criticized by Federal Environmental Agencies**

The Addendum goes on at great length about how the National Science Foundation has allegedly tested and approved CPVC plastic drinking water pipe. (Addendum, pp. 14-15, 35-36.) The Addendum notes that the National Science Foundation was established by an act of Congress. (*Id.*) The Addendum states that the National Science Foundation conducted extensive testing of CPVC pipe in accordance with US Environmental Protection Agency tests methods. The Addendum contends that the National Science Foundation:

“assessments confirm that the concentrations of leached materials from the CPVC Plumbing system products, materials, and ingredients (including all chemicals, contaminants, or impurities in the product) that came in contact with the water did not result in unacceptable toxicological levels. Furthermore, the risk assessment results met all acceptable levels using both US EPA and California Department of Health Services approved toxicological review and risks assessments.”

The stunning fact about all of these statements is that they are demonstrably and *blatantly false*. The test referred to in the Addendum (NSF/ANSI Standard 61) was performed by the *National Sanitation Foundation* (“NSF”), *not* by the *National Science Foundation*. (Appendix 2.) The NSF is a private entity that receives most of its funding from private product manufacturers seeking an NSF listing for their products. The NSF was not established by any act of Congress.

Worse yet, far from endorsing the National Sanitation Foundation tests, the US EPA has harshly criticized the very tests cited in the Addendum. US EPA rejected the National Sanitation Foundation’s tests, and found that, directly contrary to NSF’s conclusions, CPVC pipe may in fact expose humans to very significant toxic and teratogenic (reproductive toxicity) chemicals. US EPA published a Federal Register notice rejecting tests performed on CPVC by “the National Sanitation Foundation (NSF) certification program for plumbing materials.” (63 Federal Register 10282 (Mar. 2, 1998).) US EPA states:

“EPA disagrees with the commentators who suggest that organotins should be deleted from the CCL [Contaminant Candidate List] [based on National Sanitation Foundation testing]. . . The Agency [US EPA] believes that organotins, including mono- and di-organotins which are used as heat stabilizers in PVC and chlorinated polyvinyl-chloride (CPVC) pipes, are of sufficient concern to warrant further investigation. The Agency is aware of

the NSF certification program . . . The Agency agrees with the NDWAC [National Drinking Water Advisory Committee] Working Group recommendation that an assessment of the toxicological data underlying the action levels established by the NSF needs to be made along with assessment of other available information on organotins, before these compounds can be disregarded as of concern. The Agency requested this information from the NSF [National Sanitation Foundation], and learned that due to confidentiality agreement, NSF cannot disclose this information; therefore we have not yet been able to assess the toxicological data.

There are numerous concerns about the occurrence and toxicological significance of various species of organotins in drinking water. A recent report indicates that unlike PVC systems, new CPVC systems have the potential to contaminate drinking water with organotin compounds for a longer period of time after installation (Forsyth and Jay 1997). There has been a report concerning tributyltin contamination of drinking water from PVC pipes, and tributyltin is of far more toxicological significance than mono- and di-organotins. (Sadiki et al, 1996). There is also concern about the recent report of teratogenic [reproductive toxicity] potential of dibutyltin (Ema et al, 1996). The Canadian Government is concerned about organotin contamination of drinking water and has launched a national survey.

In light of these concerns, the Agency believes that organotins, including mono- and di-organotins, should remain on the CCL until the Agency can perform its own in-depth evaluation of the occurrence and toxicological data of the contaminants of this class.”

(63 Federal Register 10282 (Mar. 2, 1998).)

Thus, not only does the US government *not* endorse the National Sanitation Foundation tests, but the US EPA has harshly criticized and rejected NSF's testing of CPVC due to inaccuracies, confidentiality, and contradictory peer-reviewed research. Contrary to NSF's faulty tests, US EPA concluded that CPVC pipe may in fact pose very significant risks to human health such as contaminating drinking water, exposing humans to reproductive toxins, and other toxic chemicals.

Not only is the Addendum misleading in this respect, it is patently false. Such a false and misleading project description cannot satisfy the requirements of CEQA.

#### **D. The Draft EIR Incorrectly Describes the Proposed Code Adoption**

The Addendum asserts that CPVC is currently authorized “to be installed as the water distribution piping from all water sources up to the point that the water

enters residential structures.” (Addendum, p. 36.) It claims that the current project would authorize CPVC pipe “inside residential structures.” (Addendum, p. 1.) The Addendum drafters apparently are confused about the California amendments to the Uniform Plumbing Code (“UPC”) section 604.1 that are incorporated into the current CPC. It also appears to misunderstand both HCD’s building standards jurisdiction, and the water system components governed by section 604.1.

The provisions of the CPC apply to all components of the plumbing system “in or on any building or structure or outdoors on any premises or property.” (24 Cal. Code Regs., Part 5, § 101.4.1.) The provisions of CPC Chapter 6 that have been adopted by HCD expressly cover the plumbing system from the water meter or other point of service connection to the water supply system owned by the private or public water utility. (See 24 Cal. Code Regs., Part 5, §§ 604.1, 610.1, 610.8.) The California Public Utilities Commission or DHS jurisdiction over the private or public water distribution system ends at the customer’s water meter or other service connection. (California Public Utilities Commission, General Order 103 § I(3)(f) (May 7, 1993).)

The water service connection is typically at the street or property boundary, with a service pipe and other system components extending to the building. The length of the building service piping depends on building setbacks and lot configuration. For nearly twenty years, HCD has recognized its jurisdiction over this component of water service systems by adopting amendments to section 604.1 that delete both references to CPVC in section 604.1, including the reference to CPVC use in the service piping “outside a building.” (24 Cal. Code Regs., Part 5, § 604.1.) Thus, the Addendum’s description of the scope of the current and proposed provisions of section 604.1 is incorrect. CPVC pipe is not authorized “from all water sources up to the point that the water enters residential structures.” (Addendum, p. 36.)

The Addendum’s incorrect assumption as to the scope of the proposed project results in a failure to consider the full range and scope of potential impacts with regard to drinking water leaching, worker safety, air quality, permeation and other issues. In addition, the incorrect, contradictory and confusing project description misleads the public regarding the nature of the project and its potential effects.

#### **E. The Draft EIR Incorrectly Describes the Type of CPVC Cement That Will Be Used in the Project**

The Project description is inaccurate because it assumes that all CPVC pipe will be joined using “one-step cement.” However, one-step cement is prohibited by the CPC, thus it would be illegal to use this product. Also, for a variety of reasons discussed below, most plumbers are likely to continue to use the two-step process.

The Project description is therefore entirely inaccurate and underestimates the likely Project emissions.

Two processes can be used to join CPVC – the one-step process and the two-step process. The two-step process uses a primer to soften the pipe, followed by the use of a cement. The one-step process combines the primer and sealant in a single application, does not require a separate primer, and thus uses less total product. (Fox Comments §E.3 (if not noted otherwise, citations to Fox Comments refer to section “T” of the comment letter of Dr. Phyllis Fox, Ph.D.) Addendum assumes the one-step process will be used in all CPVC installations, but never specifically identifies it.

Even if the CPC were revised to allow the use of one-step cement, two-step cement would also be allowed. The Addendum underestimates emissions by assuming that 100% of plumbers will use the one-step process. Professional plumbers, installation manuals and manufacturer’s literature all recommend the two-step process because of its superior joining properties (it works better). (Fox Comments §E.3.) Thus, it is likely that the vast majority of plumbers will continue to use the two-step process. (*Id.*) By assuming that all plumbers will use the one-step process, the Addendum clearly underestimates Project emissions.

CEQA requires consideration of a reasonable worst-case scenario to determine if there is a “fair argument” that there “may” be any adverse environmental impacts. The worst-case scenario would be continued use of two-step cement. As discussed above, a negative declaration is improper, and an EIR is required, whenever substantial evidence in the record supports a “fair argument” that significant impacts “may” occur. The “fair argument” standard is an exceptionally “low threshold” favoring environmental review in an EIR rather than a negative declaration, which terminates the environmental review. (*Pocket Protectors v. City of Sacramento, supra*, 124 Cal.App.4th at 928.) The “fair argument” standard requires preparation of an EIR if any substantial evidence in the record indicates that a project may have an adverse environmental effect. (*Id.* at 931; CEQA Guidelines § 15064(f)(1).) Under the “fair argument,” CEQA always resolves the benefit of the doubt in favor of the public and the environment. Resolving the benefit of the doubt in favor of the environment would be to assume 100% continued use of the two-step cement process. The Addendum has done exactly the opposite by assuming 100% use of the one-step process.

For purposes of CEQA, “[possible] indicates that something is realizable as an end. It can imply either a moderate degree of probability or the barest chance within the limits of circumstances.” (*Security Environmental Systems v. SCAQMD, supra*, 229 Cal.App. 3d 110 at 119 (emphasis added).) As discussed below, there is a reasonable possibility that the vast majority of plumbers will continue to use the two-step cement, and it is almost certain that 100% will not use the one-step

process. The worst-case scenario would clearly be one in which all plumbers were using the two-step process.

Finally, the California Plumbing Code requires the use of a primer for hot and cold-water distribution systems. (CPC § 316.1.3 (“A listed primer in compliance with ASTM F 656-96a shall be used on all CPVC solvent cemented joints.”).) Thus, it would be illegal for a plumber to use the one-step process that is assumed by the Addendum. It cannot be an accurate project description to assume that 100% of plumbers will violate the law, as the Addendum has done.

While IAPMO’s 2004 UPC proposes to allow the use of the one-step process for the first time, the 2004 UPC has not been adopted by the CBSC. Nor is it reasonable to assume that the CBSC will adopt the rule change allowing one-step cement since the CBSC often makes substantial changes to the IAPMO model code (such as the change prohibiting the use of CPVC except in very limited circumstances). IAPMO is a private body, and the Court of Appeal has held that it would be unconstitutional for the state to blindly adopt IAPMO’s model code wholesale without reviewing each and every change to determine if the changes are appropriate in California. (*Plastic Pipe and Fittings Assoc v. Calif. Building Standards Comm.* (2004) 124 Cal. App. 4th 1390, 1410; *International Assn. of Plumbing etc. Officials v. California Building Stds. Comm.* (1997) 55 Cal.App.4th 245, 253.) Thus, the Addendum has improperly described the Project by assuming that all installers will use one-step cement, which is currently illegal.

Dr. Fox calculates that the Addendum’s use of one-step cement resulted in a 50% underestimation of emissions from the Project. (Fox Comments §E.3.) In other words, the Project emissions would have been twice as high if the Addendum had assumed the use of the two-step cement that is required by law.

Thus, the Project description inaccurately assumes that 100% of plumbers will use the one-step cement process. The Addendum thereby underestimates the impacts of the Project by 100%.

#### **F. The Project Description Is Based on Guesstimates, Not on Substantial Evidence**

As discussed above, an accurate project description must be based on substantial evidence based in fact, and the evidence must be discussed in the negative declaration. (*Sundstrom v. Mendocino, supra*, 202 Cal.App.3d 296; *Citizens Ass’n for Sensible Devel. of Bishop Area v. Inyo, supra*, 172 Cal.App.3d at 171.) An important purpose of the initial study is to “[provide] documentation of the factual basis for the finding in a negative declaration that a project will not have a significant effect on the environment; . . .” (CEQA Guidelines § 15063 (c)(5).) The negative declaration “must also disclose the data or evidence upon which the person(s)

conducting the study relied. Mere conclusions simply provide no vehicle for judicial review.” (*Citizens Ass’n for Sensible Devel. of Bishop Area v. Inyo*, *supra*, 172 Cal.App.3d at 171.)

By contrast, the Addendum’s project description is based on “guesstimates” made by unnamed individuals with little or no apparent expertise. For example, the Addendum assumes that 2 pounds of adhesive will be used to plumb each house. (Addendum, p. 19.) Documents obtained through the Public Records Act indicate that Mr. Staack, HCD Legal Affairs Division, requested that an associate in HCD’s Division of Codes and Standard “develop a *semi-accurate* estimate on the amount of adhesive would [sic] be used in a house to install CPVC water pipe.” (Appendix 22) (emphasis added).<sup>6</sup> Subsequently, Mr. Staack asked a Mr. Hensel: “I if [sic] safe to say that approximately 2 pounds of adhesives are would [sic] be used to glue a typical residences [sic] with CPVC?” (Appendix 22).<sup>7</sup> The record shows no response to this question, or any substantial evidence to support the 2-pound figure. Nevertheless, the 2-pound figure was used in the Addendum.

The 2-pound “semi-accurate” estimate is apparently based on a conversation between Mr. Hensel, tasked with making a “semi-accurate” estimate, and a person named “Harry” who claims he used “2 ½ pints of CPVC cement to do a 3bdrm, 3bath home.” (Appendix 22).<sup>8</sup> Dr. Fox’s calculations indicate that this amount of low-VOC cement weighs about 2 pounds.<sup>9</sup> (Fox Comments § E.) There appears to be no other basis in the record before the agency for the 2-pound estimate. Thus, it appears that the Addendum’s estimate of 2 pounds of “adhesive product” is based on this conversation with “Harry”.

This is not a substantial or reasonable basis for a VOC estimate. First, it is based on a conversation with an unidentified person of unknown qualifications and experience. Second, it is based on an estimate for a single house. Third, the specific product that was used is not identified in the e-mail beyond “cement.” “Cement” could mean a one-step product (thus omitting the primer) or the cement used in the two-step process (including separate the primer). Different amounts of each product would be required. Fourth, calculations presented below suggest that the Addendum assumed the one-step joining process will be used for 100% of the homes. This is not a reasonable assumption because the two-step process, which uses primer and cement, is widely used.

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<sup>6</sup> E-mail from Bill Staack, HCD, to Doug Hensel, HCD, Re: Adhesive used, November 3, 2004.

<sup>7</sup> E-mail from Bill Staack, HCD, to Doug Hensel, HCD, Re: Adhesives product used, November 8, 2004.

<sup>8</sup> E-mail from Doug Hensel to Bill Staack, Re: Adhesives product used, November 9, 2004.

<sup>9</sup> The specific gravity of Otey low-VOC cement, as reported on the MSDS, is 0.96. Specific gravity is the ratio of the density or weight of a product to the density or weight of water. The density of water is 7.48 pounds per gallon. Thus, 2-1/2 pints of Otey low-VOC cement would weigh about: (0.96)(7.48 lb/gal)(0.125 gal/pint)(2.5 pints) = 2.24 lbs.

By contrast, Dr. Fox conducted detailed calculations based on published emission factors, recognized treatises and journal articles, manufacturers literature, published cement usage calculation factors, declarations from experts in the field and other highly reliable data. She calculates based on this reliable and substantial evidence that the Project's emissions will be almost 400% higher than estimated in the Addendum. (See below).

The Addendum fails entirely to base its calculations on substantial evidence, nor does it disclose any reliable basis for its conclusions. Basing a CEQA document's project description on "semi-accurate" emissions estimates from "Harry's" experience plumbing his own house is simply neither substantial nor reasonable. The Project description is therefore patently inadequate.

## **IX. A FAIR ARGUMENT EXISTS THAT THE EXPANDED USE OF CPVC MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT EVEN WITH THE PROPOSED MITIGATION MEASURES**

### **A. Substantial Evidence Exists That Toxic Chemicals Leach Directly From the CPVC Pipe and Solvents and May Contaminate Drinking Water**

The universal statewide approval of CPVC may cause significant drinking water impacts due to the leaching of toxic chemicals directly from the CPVC pipe, cements and solvents. The Addendum, however, fails to divulge or analyze any of the health risks associated with this leaching.

As discussed fully in the attached comments of Thomas Reid, past studies demonstrate organic chemicals such as tetrahydrofuran ("THF"), methyl ethyl ketone ("MEK"), acetone, chloroform and organotins have been found to leach into drinking water from plastic pipe and the primers, solvents and cements used to join the pipe. (Exhibit B ("Reid Comments.") What is currently known about these substances raises serious questions about the safety of chronic human exposure to them singly or in concert. (*Id.*)

THF, for example, is potentially carcinogenic. (Appendix 24, pp. 7, 8.) THF may also cause depression of central nervous system functions. (Appendix 28 p. 36.)

MEK causes irritation and central nervous system depression even in low doses. (Appendix 24, pp. 23.) In higher doses, MEK may be embryotoxic, fetotoxic and potentially teratogenic. (*Id.* at p.9.) Chronic irritation is associated with skin cancer. Subchronic toxicity studies of MEK show that it causes liver damage.

MEK also potentiates the toxic effects of other common contaminants, including such common CPVC leachates as THF and Acetone. (*Id.* at pp. 9-10, 13-14.) Peripheral neuropathy may be caused by the combined exposure of MEK and THF. (*Id.*) Furthermore, MEK and acetone may cause polyneuropathy when found together. (*Id.*)

Organotins such as diorganotins and triorganotins are of particular concern. Both are irritants to the skin and eyes and are powerful metabolic inhibitors. (*Id.* at pp.15-17.) Diorganotins are hepatotoxic and can cause damaging effects on the liver and bile duct, immunotoxicity, reproductive toxicity and developmental toxicity. (*Id.*) Triorganotins, such as tributyltin, are highly toxic to the central nervous system. (*Id.*)

While relatively recent changes in manufacturing formulas by U.S. CPVC manufacturers (largely as a result of past environmental reviews in California CEQA proceedings) have significantly reduced or eliminated chloroform leaching, HCD is proposing to approve a generic material called CPVC, but not a specific manufacturing formula. As a result, there is nothing in the current proposed approval that would preclude importation of CPVC manufactured by foreign producers using chloroform or the resumption of chloroform use by U.S. manufacturers. In the absence of government regulation, decisions regarding manufacturing processes will be driven by cost and competition.

#### **1. US EPA Has Determined That Leaching of Organotins From CPVC May Have Toxicological Significance**

The US EPA has corroborated that leaching of organotins from CPVC pipe may be a public health concern. In 1998, EPA published a Federal Register notice stating that "organotins, including mono- and di-organotins which are used as heat stabilizers in PVC and chlorinated polyvinyl-chloride (CPVC) pipes, are of sufficient concern to warrant further investigation." (63 Federal Register 10282 (Mar. 2, 1998).) EPA cited in support of this conclusion numerous reports demonstrating that new CPVC systems have the potential to contaminate drinking water with organotin compounds for a significant period of time after installation. (*Id.*)

Of particular concern to EPA were reports of tributyltin contamination of drinking water from PVC pipes since Tributyltin is of far more toxicological significance than mono- and di- organotins. (*Id.*) Moreover, NSF does not test CPVC for tributyltins. (Exhibit B ("Reid Comments").) EPA concluded that the toxicology and leaching of organotins required further in-depth evaluation. (63 Federal Register 10282 (Mar. 2, 1998).)

This conclusion by EPA is substantial evidence that CPVC leaching may significantly affect drinking water. Yet, neither the 2000 MND nor the Addendum divulge or analyze this potential impact.

## **2. New Information About Public Health Standards for Organotins Has Become Available Since the Issuance of the 2000 MND**

Since the issuance of the 2000 MND, a new study has become available concluding that the drinking level concentration for organotins safe for human consumption is much lower than stated in the 1998 EIR. (Reid Comments.) The 1998 EIR relied upon a recommended drinking water concentration limit of 20 ug/L of dibutyltins and tributyltin compounds a day. (*Id.*) A study by the German Federal Institute for Health Protection of Consumers and Veterinary Medicine, however, recommended that this value be reduced by more than half to 8.75 ug/L per day for an adult. (*Id.*) The drinking water concentration that would be protective of an infant is even lower, about 4.9 ug/L a day. (*Id.*)

In September 2003, the Agency for Toxic Substances and Disease Registry ("ASTDR"), an agency of the U.S. Department of Health and Human Services, recommended new Minimal Risk Levels ("MRLs") for organotin compounds. (*Id.*) The ASTDR recommendations for tributyltin corresponded to a drinking water concentration of 10.5 mg/L for an adult and 5.9 ug/L for an infant. (*Id.*)

## **3. Levels Of Organotins in Drinking Water Are Cumulatively Significant**

The Addendum is also inadequate because it fails to analyze the potential cumulative impacts of organotins in drinking water. The exposure levels examined by HCD assume that one hundred percent of the exposure is from drinking water. However, there are many other sources of organotin compounds, including packaged foods (leached from plastic containers), seafood (highly bioaccumulated), bottled drinks (leached from plastic containers), and swimming in contaminated waters (many receiving waters in California have elevated levels). (*Id.*)

Even if we were to rely on NSF-61 to establish a threshold applicable to a single product, the organotin levels would be significant. NSF-61 establishes requirements for the testing and evaluation of contaminants that are extracted (leached) from water that has been exposed to products that convey potable water. It sets two significance thresholds for drinking water. The total allowable concentration ("TAC") is the maximum concentration allowed in a public drinking water supply from all sources of contamination. (*Id.*) A single product allowable concentration ("SPAC") is the maximum concentration that a single product is

allowed to contribute. (*Id.*) The SPAC is intended to account for potential contribution by multiple products or materials in the drinking water system.

The single product allowable concentration, based on NSF-61, is designed to account for potential contribution by other sources. (Appendix 2, Sec. A.7.4, p. A13.) For dibutyltin compounds, the NSF calculated the SPAC by multiplying the TAC by 20%. (Appendix 2, Table E1.) Using the same approach, the SPAC for dibutyltin, based on the German TDI value would be 1.75 ug/L for an adult and 0.59 ug/L for an infant. (Reid Comments.) The leaching data reported by the U.S. EPA (0.8 – 2.6 ug/L) and by the 1987 Cooper study (33 ug/L) indicate that dibutyltin levels in drinking water in CPVC-piped systems can exceed these levels, for both adults and infants. (*Id.*)

#### **4. New Formulations of CPVC Pipe and CPVC Solvents May Pose a Significant Leaching Risk**

The Addendum's analysis of leaching impacts is further deficient due to its failure to examine the ever-changing composition of CPVC Pipe and CPVC cements and primers. Reid identifies in his comments numerous changes to CPVC pipe composition and CPVC primer and cement formulations since the 2000 MND. (Reid Comments.) HCD, however, fails to identify these alternative formulations or assess the potential public health and environmental impact of their use.

Reid finds that these new formulations may pose significant leaching issues. (*Id.*) Some of the additives raise public health concerns not addressed in earlier HCD reviews of this issue. For example, unreacted monomers from impact modifiers may contain butadiene or acrylonitrile, which are carcinogens. (*Id.*)

Reid concludes that these ongoing changes in pipe and cement formulations underscore the fallacy of HCD's persistence in treating CPVC as an inert material. Without examining the new formulations of the products it is proposing to approve, HCD has no foundation to support its determination that there will be no new significant leaching impacts.

#### **5. Substantial Evidence Exists That the Mitigation Measures Proposed to Address Leaching Impacts Are Inadequate**

CEQA allows the use of a mitigated negative declaration only where the mitigation measures modify the potentially significant impacts of the Project "to a point where clearly no significant effects would occur...." (*San Bernardino Valley Audubon Soc. v. Metropolitan Water Dist.* (1999) 71 Cal.App.4th 382, 391; CEQA Guidelines, § 15070, subd. (b)(1).) If substantial evidence in the record supports a

fair argument that the stated mitigation measures may not actually achieve this goal, then an EIR must be prepared.

By statutory definition, a mitigated negative declaration is one in which (1) the proposed conditions “avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.” (*Architectural Heritage Ass'n v. County of Monterey* (2004) 122 Cal.App.4th 1095, 1118-19; Public Resources Code § 21064.5.) Accordingly, adoption of a mitigated negative declaration is proper only where the conditions imposed on the project reduce its adverse environmental impacts to a level of insignificance. (*Id.*; see also CEQA Guidelines, § 15064, subd. (f)(2).)

In determining whether a mitigation measure eliminates a potential adverse impact, the “fair argument” standard applies. (*Friends of “B” Street v. City of Hayward* (1980) 106 Cal.App.3d 988, 1002.) Even if the agency can point to substantial evidence supporting its determination that no significant impact will occur, a negative declaration cannot be upheld if the record contains other substantial evidence to the contrary. (See *City of Redlands v. County of San Bernardino* (2002) 96 Cal.App.4th 398.)

In the case at hand, there is substantial evidence that the mitigation measures proposed to eliminate contamination of drinking water from the chemicals leaching from CPVC and CPVC solvents and cements are inadequate, in that they fail to reduce the environmental detriment “to a point where clearly no significant effect” will result. (See *Architectural Heritage Ass'n v. County of Monterey, supra*, 122 Cal.App.4th at pp. 1111, 1118-19.)

First, there is absolutely no evidence that a one-week flushing regimen is sufficient to eliminate the contamination of drinking water from CPVC pipe and cements. Studies of the leaching characteristics of CPVC demonstrate that CPVC pipe may leach Oganotins, MEK, THF and other chemicals into drinking water at levels of concern long beyond the first week of use. (Reid Comments, p. 13; Appendix 7, Appendix 19.)

Second, there is substantial evidence that even this inadequate flushing regimen is not being enforced, implemented or monitored. (Appendix 25 (Capitolo Report); Appendix 27 (Calone Report).) As a result, drinking water consumers are exposed to these leached chemicals from the initial time of installation.

**a) The Addendum's Conclusion That a One-Week Flushing Regimen Reduces the Level of Drinking Water Contamination to a Level of Insignificance Lacks Evidentiary Support**

The Addendum indicates that because the 2000 MND already considered and required pipe flushing to prevent the contamination of drinking water from CPVC leachates, these issues need not be reevaluated. However, the 2000 MND presented no studies, data or analysis to support a finding of no significant impact. The 2000 MND never identified the levels of leaching before flushing or after flushing, nor did it indicate how the flushing requirement would reduce the leaching that has been identified after the initial installation.

Furthermore, the claim that a one-week flushing regimen would reduce the potential for leaching impacts below a level of significance is contrary to current available data. For example, CPVC leaches levels of MEK at unacceptable levels for more than a month. (Reid Comments at 13; Appendix 7; Appendix 19.) Levels of THF are still unacceptable after 75 days. (*Id.*) Organotins stay at unacceptable levels for three weeks or longer. (*Id.*)

NSF screening data for CPVC materials, pipes, and fittings for product certification indicate that the concentration of dibutyltin ranged from 0.0013 ug/L to 140 ug/L and averaged 11 ug/L. (*Id.*) The data reported by NSF, when screened using the German tolerable intake level of for dibutyltin, indicates that leaching of organotin compounds could result in a significant public health impact. (*Id.*) The average concentration of dibutyltin exceeds the German tolerable daily intake level of 8.75 ug/L in 6% of the samples after 21 days of leaching. (*Id.*) Thus, the proposed flushing mitigation measure would not eliminate this impact.

The failure to disclose that leaching may remain significant even after one week of flushing violates the fundamental public information and disclosure objectives of CEQA. Furthermore, the Addendum's reliance on a one-week flushing regimen without any factual foundation for this reliance is arbitrary and capricious.

**b) The One-Week Flushing Regimen Is an Historical Relic That Has Been Widely Criticized as Arbitrary, Lacking Factual Foundation and Unenforceable**

While the one-week flushing regimen has no scientific basis, it does have a historical basis. A two-week flushing regimen was first proposed in the early 1980's, when preliminary leaching tests were just beginning. (Reid Comments at p. 12.) The hypothesis then was that any leaching would be short term and that a short term flushing regime would suffice.

In 1987, however, a comprehensive leaching study of CPVC was performed by Dr. Robert Cooper at the University of California –Berkeley labs of the SEEHRL institute (“Cooper Study.”). (See Appendix 7.) When the Cooper study was completed, the persistence of solvent chemicals in the drinking water for at least three weeks was generally acknowledged as a bit of a surprise. (Appendix 7.)

Despite the findings of the Cooper study, the abandoned 1989 Draft EIR proposed a one-week flushing protocol for CPVC potable water systems, with an additional third flush to take place immediately before the premises were occupied. (1989 Plastic Pipe Draft EIR, p. 75.) This protocol (which, with its third flushing requirement, is even stricter than the one proposed in the Addendum) was widely criticized by commentators as arbitrary, lacking factual foundation and unenforceable. (See Appendix 54; Appendix 8.)

The comments on the 1989 Draft EIR identified a number of problems with the flushing protocol that, to date, have yet to be evaluated. Foremost among the problems was that the flushing recommended by the DEIR as mitigation would not address the full spectrum of the threat identified by the studies. In addition, the feasibility and enforceability of the flushing requirement was questioned given that plumbing contractors leave the site after completion of the system and plumbing inspectors also do not return to the site after final certification of system installation in accordance with code requirements. Local building departments also do not have the staff or funding to assume new enforcement responsibilities.

There were also claims that contractors and builders would resist the expensive and time-consuming procedure suggested. Flushing requires repetitive actions to be carried out *after* the plumber has finished his work. It would be difficult to assign responsibility for flushing to someone other than the plumbing subcontractor, yet requiring the plumbing subcontractor to perform flushing would force him to return daily to the job site.

**c) Mitigation Measures Must Be Feasible and Enforceable, Meaning Capable of Being Accomplished in a Successful Manner, Taking Into Account Economic, Environmental, Social and Technological Factors**

The incorporation of mitigation measures into a project means to amend the project so that the mitigation measures “necessarily will be implemented.” (*Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261, fn. 4.) Accordingly, mitigation measures must be feasible, meaning capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors. (Pub. Resources Code, § 2106.1; CEQA Guidelines § 15364.)

In addition, CEQA requires that public agencies adopt “feasible” mitigation measures that shall be “actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded.” (*Federation of Hillside and Canyon Associations v. City of Los Angeles*, *supra*, 83 Cal.App.4th at 1261; see Public Resources Code § 21002.1, subd. (b).) “When the success of mitigation is uncertain, an agency cannot reasonably determine that significant effects will not occur.” (Remy, Thomas & Moose, Guide to CEQA, *supra*, p.426; see *Sundstrom v. County of Mendocino*, *supra*, 202 Cal.App.3d at 306-308.)

For example, in the case *Federation of Hillside and Canyon Associations*, Petitioners contended that there was no assurance that the proposed measures to mitigate the significant effects on transportation would be implemented because funding for the mitigation measures was highly speculative and because the mitigation measures were dependent on the cooperative efforts of various public agencies. (*Federation of Hillside and Canyon Associations v. City of Los Angeles*, *supra*, 83 Cal.App.4th at 1260.) The Court agreed and held that the city failed to provide mitigation measures that would actually be implemented. (*Id.* at 1261.)

The case at hand is analogous to the case before the court in *Oro Fino Gold Mining Corp. v. County of El Dorado*. In *Oro Fino Gold Mining Corp.*, a mining company that six years earlier had received a permit allowing drilling of up to 300 holes based upon a mitigated negative declaration sought a new permit to drill 30 new holes in an area that overlapped the old permit based upon a new mitigated negative declaration.

The new mitigated negative declaration proposed imposing the same 50-dBA drilling noise limit mitigation measure as the earlier permit. (*Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 876.) Under the proposed mitigation, the drilling noise could not exceed the county standard of 50-dBA measure from a point within 50 feet of a residence. (*Id.* at 882.) While no one argued that the standard itself was inadequate, evidence was presented that during the previous project the same standard was not monitored or enforced vigorously and that residents had made multiple complaints to the county about noise from the project. (*Id.*)

The Agency determined that the evidence of past failure to enforce the mitigation measures imposed by the prior mitigated negative declaration demonstrated that there may be a significant impact even with the reimposition of the same mitigation measures. Accordingly, the Agency required an EIR. (*Id.*)

The Appellate court upheld the Agency’s decision, holding that evidence of actual past failures to monitor and enforce mitigation measures “constitute substantial evidence.” (*Id.*) In other words, actual failure to monitor and enforce

compliance with mitigation measures is substantial evidence that adverse impacts may occur.

**d) Recent Studies Demonstrate That the Flushing Protocol Is Not Adequate, Feasible or Enforceable**

Two recent reports show a systematic failure to enforce or implement the flushing protocol imposed by the 2000 MND. In March and April of 2005, Mark Capitolo conducted a survey of building officials to evaluate the effectiveness of the mitigation measures imposed on the current limited approval of CPVC.<sup>10</sup> Capitolo located 33 jurisdictions that have approved some use of CPVC under the current California Plumbing Code provisions. (Appendix 25.) Of the 33 jurisdictions surveyed, only *one* jurisdiction (a mere three percent) fully enforced the entire one-week flushing regimen. (*Id.* at p. 4.)

One other jurisdiction enforced the initial flush and the warning tag requirement, but did not return to ensure the second flush took place. (*Id.*) Two jurisdictions required the architect, engineer or contractor to certify they have complied with the flushing requirement, but did not inspect to ensure compliance. (*Id.*) Generally, the sentiment was that “enforcing the second flushing was difficult.” (*Id.*)

In addition to not being enforced by local building officials, the existing flushing requirements are not being followed by plumbing contractors. Attached as Appendix 27 to this Comment is a recent investigative report by Robert Calone, a certified plumbing inspector and a plumbing instructor who has conducted an inspection of several worksites where CPVC potable water pipe was being installed in residential occupancies. He also conducted interviews with a number of journeymen plumbers experienced in the installation of CPVC pipe and who had recently installed CPVC in residential buildings.

Calone’s investigation found zero compliance with the flushing requirements. (Appendix 27.) Finish workers reported that they would run the water through the system in order to test the fixtures, but did not run it for the time required by the protocol of flushing the system as a guard against or for the purpose of chemical leaching. (*Id.*) These plumbers also did not return a week later to give the system a second flush. Furthermore, none of the workers tagged the fixtures as required to indicate that a seven-day static flush was in place and none of the fixtures in the buildings Calone inspected were tagged. (*Id.*)

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<sup>10</sup> A similar survey was undertaken in 1998 regarding implementation of almost-identical mitigation measures that were imposed as part of the limited CPVC installations allowed briefly under the expired Health and Safety Code section 17921.9. (Appendix 26.) Health and Safety Code section 17921.9 also included a one-week system-flushing requirement, although it did not include the tagging requirement. (*See* Health & Saf. Code § 17921.9.) A survey conducted of building officials in jurisdictions that had approved CPVC pursuant to AB 151 found that only 2 of the 37 building officials surveyed had required compliance with the AB 151 flushing provisions.

Despite the lack of evidence that a one-week flushing regimen is sufficient to mitigate the leaching problem and despite the new evidence that the one-week flushing regimen is systematically ignored and unenforced, the current Project merely repeats the same unfounded claim that this short term flushing protocol will reduce the potential impact from CPVC leaching to a level of insignificance. This claim simply lacks any evidentiary support.

The courts have held that “mere concern” that mitigation measures might not be enforced does not constitute admissible evidence. (*Oro Fino Gold Mining Corp. v. County of El Dorado*, *supra*, 225 Cal.App.3d at 883; *Lucas Valley Homeowners Ass’n v. County of Marin* (1991) 233 Cal.App.3d 130, 164.) In the case at hand, however, the evidence presented is not of feared or anticipated non-compliance, but of actual, systematic non-compliance demonstrating the complete failure of the mitigation measures. The court in *Oro Fino Gold Mining Corp.* recognized this distinction and held that actual evidence of failure to enforce mitigation measures was substantial evidence that adverse impacts may occur. (*Oro Fino Gold Mining Corp. v. County of El Dorado*, *supra*, 225 Cal.App.3d at 883.)

**B. The Addendum Fails to Adequately Consider and Mitigate for the Risk That Solvent Exposure Poses to Workers**

**1. There Is Substantial Evidence That the Installation of CPVC May Expose Workers to Health Hazards From Chemical Exposures**

Past studies have demonstrated that without effective mitigation measures, workers installing CPVC pipe will be regularly exposed to levels of harmful chemicals exceeding established workplace standards. The most comprehensive study on this subject was conducted by DHS in 1989. (Appendix 6.) At the request of HCD, DHS examined worker exposure to the chemicals in the solvents used to join the pipes and concluded that workers installing CPVC pipe regularly suffered significant exposure to toxic chemicals in excess of the legal exposure limits for those chemicals. (*Id.*) The study found that chemicals such as THF and MEK enter the bloodstream of workers through vapors, solvent skin contact and through permeation of gloves and clothes.

Jim Bellows, one of the primary authors of the 1989 DHS report, has extensively studied the potential health risks to workers installing CPVC pipe. Attached as Appendix 8 and Exhibit C are his 1998 worker health report prepared in conjunction with HCD’s earlier CEQA review process and his 2005 update to that report. Bellow’s analysis of the evidence demonstrates that the universal statewide approval of CPVC would result in serious violations of workplace chemical exposure standards that must be considered significant under CEQA unless effective

mitigation measures are implemented. (Bellows Comments; See also Appendix 28; See also, Fox Comments, §II.A.)

The 1989 DHS study found that workers installing CPVC pipe are exposed above legal limits to the solvents contained in CPVC primer and cement – including THF, MEK, cyclohexanone (“CHX”) and acetone (“ACE”). The likelihood of overexposure above the full-shift exposure limit was estimated to be 10% for a typical workday of installing CPVC pipe for potable water in residential construction. The likelihood of overexposure above the short-term exposure limit at least once in a typical eight-hour workday was estimated to be 68%. Urine monitoring provided strong evidence that dermal absorption contributed substantially to the overall exposure in some workers. The DHS study further concluded that while THF and MEK have not been well studied, evidence exists showing that these substances may cause cancer.

In his 1998 report, Bellows also found that the introduction of low-VOC primer and cement formulations have actually result in *higher* combined exposures than were observed in the 1989 DHS study. (Appendix 28, p. 18-20.) The typical low-VOC primer and cements contain almost ten times the amount of MEK, resulting in “ten-fold higher airborne concentrations as the primer and cement evaporate.” (*Id.* at p. 20.)

In 1998, Dr. Martyn Smith, Professor of Toxicology in the School of Public Health at the University of California, Berkeley, and Peggy Lopipero, M.P.H., reviewed the potential adverse health impacts for worker exposure to THF, MEK and acetone. Their report concluded that exposure to these chemicals may cause significant health effects<sup>11</sup> and that THF was potentially carcinogenic. (Appendix 24, pp. 1-2, 23.) Lopipero and Smith also warned that CPVC solvents and cements in combination with each other or with other contaminants may cause illness where each individually would not. They concluded that MEK, acetone and possibly THF have the ability to potentiate the toxic effects of other chemicals including common contaminants of tap water. (Appendix 24, p. 13.)

In the 1998 Draft EIR, HCD acknowledged these potential adverse impacts on worker health from CPVC installation. HCD stated that: “Workers not following safe use recommendations or using improper materials can be injured, and the Lead

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<sup>11</sup> Even at levels lower than recommended exposure limits, MEK and acetone produce irritation of the eyes and nose and throat. (Appendix 24, p. 23.) Indeed a substantial percentage of plumbers report experiencing irritation during the installation of CPVC pipes. (*Id.* p. 23.) DHS has stated clearly that short-term irritation is a material impairment to health. (Appendix 28, p. 25.) Furthermore repeated irritation may contribute to chronic illness. (*Id.*) Furthermore, all four solvents used in CPC primers and cements – THF, MEK, CHX and acetone – may lead to the depression of central nervous system functions. Dizziness was the second most common symptom of ill health reported by workers participating in the 1989 DHS study, followed by headaches. (*Id.* p. 36.)

Agency considers this to be the worst case situation.” (1998 Draft EIR, p. 69.) The DHS experts then advising HCD on the preparation of the incomplete 1998 EIR corroborated this conclusion, writing: “Case reports point to the likelihood that overexposure related to poor ventilation has already led to illness in pipe workers.” (Appendix 8, Comments of Elizabeth Katz, MPH, Acting Chief, Hazard Identification System and Information Service, Department of Health Services, June 11, 1998.)

In his updated April, 2005 comments, Bellows has reviewed all available information and conducted a literature search of on-line databases and concludes once again that the 1989 DHS study and his 1998 comments remain valid. Bellows observes that the exposure limits for CPVC primer and cement solvents have not changed since the 1989 report and knowledge about the human toxicity of these solvents has evolved little.

## **2. Substantial Evidence Exists That Current Mitigation Measures Proposed to Address Worker Health and Safety Are Inadequate**

As discussed fully earlier, CEQA allows the use of a mitigated negative declaration only where the mitigation measures modify the potentially significant impacts of the Project “to a point where clearly no significant effects would occur....” (*San Bernardino Valley Audubon Soc. v. Metropolitan Water Dist.* (1999) 71 Cal.App.4th 382, 391; CEQA Guidelines, § 15070, subd. (b)(1).) If substantial evidence in the record supports a fair argument that the stated mitigation measures may not actually achieve this goal, then an EIR must be prepared.

### **a) The Glove-Use Mitigation Measures Are Inadequate Even if Implemented or Enforced**

Substantial evidence exists that the glove-use requirements may not be effective even if implemented. Most gloves, such as latex or cotton gloves, offer little to no protection from dermal absorption. (Appendices 29, 38, 39.) Accordingly, the current CPC regulations state that workers shall use non-latex thin gauge (4 millimeters) nitrile gloves during the installation of the CPVC plumbing system. (CPC, Appendix I, IS 20, § 301.0.2.2.)

Such gloves, however, are not sufficient to protect against all dermal absorption risks. Thin gauge nitrile gloves are “not recommended for use with THF.” (Appendix 39, p. 11.) Permeation time for THF through 4-millimeter gloves is almost “instantaneous.” (*Id.*; see also Appendix 38, p. 7.)

The CPC does recommend that gloves “be replaced upon contamination by cements,” but provides no guidance on what this means. (CPC, Appendix I, IS 20, §

301.0.2.2.) This vague directive provides no explanation as to when a glove is considered contaminated nor does it state how long a glove may be worn before it must be replaced. The continued use of THF in CPVC cements and primers thus creates a significant likelihood of worker health and safety impacts even with the use of thin-gauge nitrile gloves.

**b) The Ventilation and Glove-Use Mitigation Measures  
Are Not Being Implemented or Enforced**

As discussed earlier, mitigation measures must be feasible, meaning capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors. (Pub Resources Code, § 2106 1; CEQA Guidelines § 15364.) Furthermore, mitigation measures must be “actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded ” (*Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261; see Public Resources Code § 21002 1, subd (b).)

When successful implementation of a proposed mitigation measure is uncertain, an agency cannot reasonably determine that significant effects will not occur.” (*Federation of Hillside and Canyon Associations v. City of Los Angeles, supra*, 83 Cal.App.4th at 1260; *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 882.) Evidence of past failure to vigorously monitor and enforce compliance with similar or identical mitigation measures is substantial evidence that adverse impacts may occur. (*Oro Fino Gold Mining Corp. v. County of El Dorado, supra*, 225 Cal.App.3d at 882.)

In the case at hand, substantial evidence exists of actual, systematic non-compliance with the proposed ventilation and glove-use mitigation measures, demonstrating that these measures fail to reduce adverse impacts “to a point where clearly no significant effect” will result. (See *Architectural Heritage Ass'n v. County of Monterey* (2004) 122 Cal.App.4th 1095, 1111, 1118-19.) The reports by Robert Calone and by Mark Capitolo, demonstrate that the ventilation and glove-use mitigation measures are not being enforced, implemented or monitored and that, as a result, many workers installing CPVC will be exposed to potentially hazardous amounts of toxic chemicals as detailed in the 1989 DHS report. (Appendix 25; Appendix 27.)

The survey conducted by the Mark Capitolo reveals that the overwhelming majority of building officials fail to enforce ventilation and glove-use mitigation measures even in the very limited situations in which CPVC is currently approved.<sup>12</sup> (Appendix 25.) Not one of the 33 jurisdictions surveyed by Mr. Capitolo

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<sup>12</sup> These findings mirror a similar survey undertaken in 1998 by Hopcroft & Associates. In 1995, AB 151 was enacted authorizing by statute the limited use of CPVC where metallic pipe was found to

fully enforced the ventilation and glove use measures. (Appendix 27, p. 4.) Six out of thirty-three jurisdictions required contractors to certify that they were aware of these regulations, but did not conduct any inspections to verify compliance. (*Id.*) Twenty-seven of the thirty-three jurisdictions (82%) failed to enforce *any* of the mitigation measures (*Id.*)

When directly asked, none of the building officials felt that enforcing the ventilation and glove use measures was either feasible or effective. (*Id.*) Most of them pointed to a lack of manpower and resources. They also stated that enforcement was difficult because “it would require us to be present when they are doing the installation.” (*Id.*) The building officials surveyed also complained “it’s difficult for building officials to enforce” these provisions because they go “beyond the scope of their jobs” (*Id.*)

The Robert Calone report demonstrates that not only are these mitigation measures unenforced as demonstrated by the Capitolo Report, they are also rarely implemented. (Appendix 27.) Robert Calone is a certified plumbing inspector and a plumbing instructor who has inspected several worksites that were installing CPVC drinking water pipe into residential homes and interviewed a number of journeymen plumbers who had recently installed CPVC. He concludes in his report that there is almost universal non-compliance with the ventilation and glove-use mitigation measures. (*Id.*) Workers that did use gloves tended to use cotton or PVC gloves, which provide zero protection from the dermal absorption of THF (*Id.*) He also found that most CPVC installers failed to use any eye protection. (*Id.*) The only worksite he observed that actually complied with the safety standards did so only *after* a serious accident. (*Id.*)

In light of the ineffectiveness of the mitigation measures imposed by the 2000 MND, the Addendum cannot rely on that mitigation to support a finding of no significant worker health impacts. (See *Oro Fino Gold Mining Corp. v. County of El Dorado*, *supra*, 225 Cal.App.3d at 876 (evidence of past failure to enforce the mitigation measures for noise impacts imposed in a prior MND demonstrated that there may still be a significant impact even with the proposed mitigation measures.)

### **c) Need for Further Study of Worker Safety Mitigation**

In his most recent comments, Bellows concludes that, while the worker safety provisions proposed in the Addendum are good steps in the right direction, by

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prematurely fail for an experimental two-year period. (Health & Safety Code § 17921.9.) Mitigation measures similar to those proposed by the Addendum were imposed as part of the statute in order to reduce public and worker health risks (*Id.*) In 1998, Hopcroft & Associates conducted a survey to determine the effectiveness of the mitigation measures and found that while most local building officials were aware of the worker safety provisions, the overwhelming majority failed to enforce these provisions. (Appendix 26.) AB 151 expired in 1997 and was not renewed (Health & Safety Code § 17921.9.)

themselves they are unlikely to reduce unsafe exposures during CPVC installation to a level of insignificance (Exhibit C ("Bellows Comments"), p 4 ) The only monitoring of the actual effectiveness of these mitigation measures as they have been applied to the limited approval of CPVC demonstrates that these mitigation measures are likely to be largely ignored and unenforced. (Appendix 25 (Capitolo Report); Appendix 27 (Calone Report).) Bellows concludes that the actual effectiveness of the proposed mitigation measures must be fully evaluated before they can be considered effective and reliable (Bellows Comments, p 5 )

The Calone and Capitolo studies were not comprehensive enough to reveal exactly why these mitigation measures have failed, but Bellows suggests that the implementation problems may be sociological or economic. In his comments, Bellows warns that it is not sufficient to review the technical merit alone of a proposed worker safety measure in understanding whether the measure will result in any real exposure reduction. This is particularly true where economic or social factors are involved that could interfere with implementation. (Bellows Comments, p. 5.)

Contractors, for example, have a powerful economic interest in avoiding protective measures that add cost and time to the job, making it likely that at least some contractors will fail to ensure that such measures would be implemented. Indeed, the Capitolo and Calone reports found that almost no contractors ensure that the worker training, ventilation and glove use requirements are implemented. The one contractor who did implement these measures only did so after one of his workers was seriously injured installing CPVC. (Appendix 27.)

Workers also may have an inherent resistance to these measures. Many workers find wearing chemical protective gloves to be uncomfortable and to slow their work. (Bellows Comments, p. 5.) Plumbing requires a reasonable sense of touch for the installation of piping, especially in finishing work, where some of the work may be done "blind" inside cabinets and the like. (See Appendix 101, p. IV.C-49.) In addition, some workers believe incorrectly that any type of gloves will provide protection. Workers under pressure to complete a job quickly may not take care to minimize or clean up spills, or to set up ventilation when their CPVC installation must be done in enclosed spaces.

Regulatory agencies may also have inherent barriers to enforcement. The staffing and resources may not be there to enforce measures outside of an agency's normal purview and may make enforcement of such measures a low priority.

For now, the exact reason or reasons for the failure of the proposed mitigation measures remains unknown. Further study is needed to determine exactly why these mitigation measures are failing and what measures may be imposed to improve the effectiveness of future mitigation measures.

Bellows lists a number of additional mitigation measures that should be considered to further reduce the risk to worker health and safety, including: (1) requiring the use of one-step cements with no primer; (2) requiring small containers and small daubers; (3) improving and expanding worker training; (4) establishing adequate funding or personnel to ensure genuine enforcement of required mitigation measures; and (5) establishing a monitoring system to improve enforcement of all relevant standards, especially those regarding gloves and ventilation. (Bellows Comments, pp. 7-8.) Bellows, however, cautions that these additional mitigation measures should be considered, not because they will guarantee that worker health impacts will be reduced below a level of insignificance, but because they may offer some additional protection

Where mitigation measures are demonstrated to be only partially effective, as is the case here, they fail to ensure that there will be no adverse impacts on the environment. While this does not mean that such mitigation measures should not be imposed in order to “reduce” the potential impacts, it does mean that such mitigation measures are inadequate to reduce such impacts to a “level of insignificance.”

### **3. The Addendum Fails to Consider the Increased Risk to Workers Manufacturing CPVC Pipes and Solvents**

The Addendum fails to address at all the worker health impacts associated with the increased manufacturing of CPVC resins, CPVC pipe and fittings, and CPVC solvent cements and primers. The Draft EIR’s complete failure to address the impacts of increased CPVC and related product manufacturing in response to the project approval is contrary to CEQA requirements. (See *Building Code Action v. Energy Resources Conservation and Development Commission* (1980) 102 Cal.App.3d 577.)

Throughout the manufacture of CPVC, dioxins, furans, hexachlorobenzene, and PCBs are unavoidably produced, primarily because of CPVC’s chlorine content. (Appendix 21; Fox Comments, §II.B.) When evaluated in relation to other plastics used to make pipe, CPVC is considered “worst in class” for use of harmful substances and earned a recommendation of “avoid” in the Plastic Pipe Alternatives Assessment produced by the San Francisco Department of the Environment. (Appendix 21, p. 4.)

Not surprisingly, CPVC manufacture can result in significant worker exposures to toxic and carcinogenic chemicals (Fox Comments, §II.B.) Dr. Fox calculates that dioxin emissions alone may expose workers to a cancer risk of over 5 per million – five times above relevant significance thresholds (*Id.*) In addition, workers are exposed to a wide range of other toxic chemicals, including THF, MEH

and cyclohexanone. (Id.) The Vinyl Chloride industry in particular has a very disturbing record of manufacturers knowingly exposing workers to serious and life-threatening workplace conditions. (Appendix 36.)

The proposed action to allow the use of CPVC for all residential drinking water systems would increase the potential CPVC use in residential homes by as much as 25 times. This in turn would substantially increase the risk to workers in the CPVC pipe and solvent manufacturing industry. This is a potentially significant adverse impact that must be reviewed in an EIR.

#### **4. The Preparation of an EIR Is Required to Fully Consider the Potential Impacts on Worker Health and Safety**

Substantial evidence based upon real world monitoring of the limited approval of CPVC establishes that workers will experience significant exposures under actual field conditions even with the proposed mitigation measures in place. CEQA allows the use of a mitigated negative declaration only where the mitigation measures modify the potentially significant impacts of the Project “to a point where clearly no significant effects would occur....” (*San Bernardino Valley Audubon Soc. v. Metropolitan Water Dist.* (1999) 71 Cal App 4th 382, 391; CEQA Guidelines, § 15070, subd. (b)(1).) Since substantial evidence in the record supports a fair argument that the stated mitigation measures may not actually achieve this goal, an EIR must be prepared.

HCD’s use of an Addendum in lieu of an EIR is inappropriate because it leaves the anticipated worker chemical overexposures unaddressed. The Calone report, the Capitolo report and the Bellows comment letter each constitutes substantial new evidence that the mitigation measures proposed under the 2000 MND will fail to eliminate these potential impacts. If HCD believes that effective application of the proposed ventilation and glove-use measures would avoid worker overexposures, it must analyze why those measures are not being effectively implemented and identify the specific measures that are necessary to ensure implementation.

An EIR must be prepared to allow for this analysis. Only then may appropriate mitigation measures be developed to ensure effective implementation of the work practices and conditions that the Addendum itself indicates are necessary to protect workers.

#### **C. The Addendum Fails to Adequately Consider and Mitigate Impacts of the Project Air Quality**

The Project will result in substantial air quality impacts, mainly VOC’s generated from cements, primers and cleaners necessary to install CPVC pipe.

Sections of CPVC pipe are joined using fittings or connectors. The pipe is chemically fused to the connector using a process call “solvent welding” or “cementing.” This process uses chemicals -- cleaners, primers and cements --which are applied to the end of the pipe and the inside of the fitting socket. The pipe ends and fittings are first cleaned, primer is applied to soften the pipe, and cement is applied to bond the pipe and fitting.

The cleaners, primers, and cements used to join CPVC pipes contain high concentrations of solvents (85% - 100%) that are volatile organic compounds (“VOC”). These VOCs are evaporated during the transfer, drying, surface preparation, and cleanup, resulting in VOC emissions. The VOCs are converted into ozone and fine particulate matter in the atmosphere, causing or contributing to violations of ambient air quality standards and attendant health effects. (Fox Comments (Exhibit A) at §I.)

The impacts of the current Project are far greater than those of the 2000-limited approval of CPVC. Dr. Fox concludes that the current Project’s air quality impacts will be up to 2500% greater than the 2000-limited CPVC approval. (Fox Comments at pp 1-2) The 2000-limited approval of CPVC resulted in use of CPVC in at most 4% of new construction, while the current Project may result in use of CPVC in up to 100% of new and re-piped residential construction. This is an increase of up to 25 times or 2500%. (*Id.*)

The Addendum itself calculates that the Project will generate 1159 pounds of VOC emissions per day statewide. (Addendum, p. 19.) This is based on an estimate of 1.36 pounds of VOCs per housing unit average times 852 new and re-piped housing units each day in 2004. (*Id.*) However, the Addendum concludes that since the 1159 pounds of VOCs per day is less than 1% of the total amount of VOCs generated each day by all sources in the state, the Project’s emissions are not significant. (Addendum, p. 21.) As discussed in detail below, this conclusion is legally and factually erroneous

When compared to any duly adopted CEQA significance threshold, the Project’s emissions are significant, and an EIR is therefore required. Further, the actual increase in emissions due to the Project is up to eight times higher than disclosed in the Addendum when properly calculated.

# **1. HCD Previously Determined That Universal Statewide Approval of CPVC May Have Significant Air Quality Impacts**

HCD determined in prior CEQA documents that the universal statewide approval of CPVC drinking water pipe may have significant air quality impacts and that an EIR was therefore required. In Initial Studies prepared in 1982 and 1997,

HCD concluded that the universal statewide approval of CPVC may have significant adverse impacts on air quality. The 2000 MND concluded that the approval of CPVC only in areas with corrosive water or soil would not have significant impacts on air quality due solely to the very limited scope of that project.

HCD cannot now make those prior admissions disappear by preparing an inconsistent initial study reaching different conclusions. As the court stated in *Stanislaus Audubon Society, Inc.*, (*Stanislaus Audubon Society, Inc. v. County of Stanislaus*, *supra*, 33 Cal.App.4<sup>th</sup> at 154) the lead agency cannot simply change its conclusions to meet its needs. *Stanislaus Audubon Society, Inc.*, “We analogize such an untenable position to the unringing of a bell. The first initial study is part of the record. The fact that a revised initial study was later prepared does not make the first initial study any less a record entry nor does it diminish its significance....” (*Id.*)

HCD’s Initial Study prepared in 1982 concluded that universal statewide approval of CPVC may have adverse impacts on air quality. In particular, the document concluded that the project may have substantial adverse impacts related to substantial air emissions or deterioration of ambient air quality. (Appendix 5, section II.2.a.) The document stated:

“Should the expanded use of plastic plumbing pipe be approved in California, a significant demand may be produced for additional pipe. This demand may lead to increased production or a general increase in activity at major chemical plants. Increased production may produce an increase in air emissions with a potential decrease in ambient air quality.” (*Id.*, section III.2.a.)

On the basis of these and other significant impacts, HCD concluded:

“on the basis of this initial evaluation, I find approval of the expanded use of plastic plumbing pipe MAY have a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT is required to assess the magnitude of any potential adverse effects, discuss alternatives to the project as proposed, and determine feasible mitigation measures to reduce identified impacts.” (*Id.*, section IV; (emphasis in original).)

HCD reached even stronger conclusions in 1997. In its 1997 Initial Study, HCD concluded that universal statewide approval of CPVC drinking water pipe would have a “potentially significant impact” in that it may “violate any air quality standard or contribute to an existing or projected air quality violation.” (Appendix 17, p.5.) The document continued:

“Potentially significant impact: The issue of solvent cements and primers used for installation and repair of CPVC pipe contributing to air pollution was raised during an earlier analysis. The concern was that volatile organic compounds in these materials could evaporate and be precursors of photochemical smog. This potential impact will be addressed in the EIR.” (*Id.*, p. 12.)

The Initial Study also concluded that the project may have significant cumulative impacts on air quality. The document stated:

“Potentially significant impact: The issues of potential contribution to photochemical smog and to contribute leachates to water have been identified as potentially significant impacts . . . These potentially significant impacts are in a context of cumulative contributions to other impacts on air and water resources. These will be evaluated in the EIR as potentially significant in the context of cumulative impacts on these resources.” (*Id.*, p. 18)

The 2000 MND prepared for the limited approval of CPVC recognized that while use of CPVC would increase VOC emissions and ozone, it concluded that these impacts would not be significant due to the limited scope of the project. The document stated that although “corrosive water and/or soil conditions exist throughout California, it is not a widespread problem. . . For these reasons, the HCD has concluded that the CPVC installations that may result from the proposed regulatory approval will be limited in scope.” (Appendix 1, Updated Informative Digest, pp. 3, 5; Appendix 11, Finding of Emergency of the Department of Housing & Community Development, p. 7.) The Initial Study for the 2000 MND recognized that:

“CPVC pipe and fittings are joined using primers and cements that contain volatile organic compounds (“VOC”), principally tetrahydrofuran, methyl ethyl ketone, and cyclohexanone. . . The VOCs from the primers and cements are considered ozone precursors, and form ozone through complex photochemical reactions in the atmosphere and with oxides of nitrogen (NOx).” (Appendix 1, Initial Study, Air Quality, pp.3-7.)

The document concluded that although CPVC installation generates VOC emissions, the limited project would not have significant impacts. HCD stated:

*“This determination is based on the limited number of anticipated residential installations of CPVC that may be approved as a result of the proposed Project . . .”* (Appendix 1, Initial Study, Air Quality, pp.3-7.)

As HCD stated, “The CPVC Negative Declaration with Mitigation Measures certified in November 2000 has found that there are no significant environmental impacts associated with the proposed building standard because the potential scope of the

CPVC use that will result from the standard will be limited . . .” (Appendix 11, Nine Point Criteria Analysis of Proposed Building Standard, p. 3.)

Thus, HCD has determined that universal statewide approval of the use of CPVC drinking water pipe may result in significant air quality impacts related to VOC emissions and ozone. The 2000 MND recognized these impacts, but concluded they would not be significant due to the limited scope of the 2000 project. HCD is now once again proposing universal statewide approval of CPVC. HCD’s own CEQA documents establish that this particular project may have an adverse impact on air quality related to VOC emissions released from solvents and cements causing ozone pollution. HCD simply cannot “unring” this bell by preparing a new Initial Study that reaches a contrary conclusion. HCD’s own prior admissions create a “fair argument” that this project may have adverse environmental impacts. (*Stanislaus Audubon Society, Inc. v. County of Stanislaus*, *supra*, 33 Cal App 4<sup>th</sup> at 154). An EIR is therefore required.

## **2. The Addendum’s Use of an Atmospheric Model’s Sensitivity Is an Improper CEQA Significance Threshold**

Air quality management agencies throughout California have adopted quantitative significance thresholds for air pollutants, such as volatile organic compounds (VOC), typically ranging from 55 pounds per day to 80 pounds per day. (See, CEQA Guidelines of Bay Area Air Quality Management District (“BAAQMD”) (Appendix 40); South Coast Air Quality Management District (“SCAQMD”) CEQA Handbook (Appendix 41); San Joaquin Valley Air Quality Management District (“SJVAPCD”) (Appendix 42); Sacramento Metropolitan Air Quality Management District (“SMAQMD”) (Appendix 43).

These quantitative CEQA significance thresholds provide an efficient and certain indication of when a project’s air emissions increases are to be considered significant for CEQA purposes, indicating that an EIR must be prepared. These significance thresholds apply to rule and regulatory changes and discreet development activities, among other types of CEQA “projects.” The universal statewide approval of CPVC will increase VOC emissions from solvent cements used to install CPVC at levels far above applicable CEQA significance thresholds. An EIR is therefore required as a matter of law.

The Addendum ignores all of these duly adopted CEQA significance thresholds entirely. Instead, the Addendum contends that since the Project’s impacts allegedly do not exceed 1 to 5 percent of the total VOC emissions in the state, that it will not be significant. (Addendum, p. 21.) The basis for this belief apparently is that:

“...the sensitivity of air quality models requires emissions in the range of 1 to 5% of the existing inventory for the air models to show changes in air quality. Thus, because the excessively conservative potential increase in VOC emissions of less than 0.023% of the statewide inventory is substantially below the sensitivity level of the air quality models used to predict new violations or increases in existing violations of ambient air quality, the Department has determined that the proposal to remove the Findings Requirement would result in a less than significant impact.”

(Addendum, p. 21, note 28.)

**a) Addendum Uses Improper “Ratio Theory” to Dismiss the CPVC Project’s Impacts**

The Addendum’s conclusion that the Project’s impacts will not be significant because the Project’s emissions will be less than one percent of the statewide total VOC emissions has been repeatedly rejected by the courts. This “drop in the bucket” approach was expressly rejected in *Kings County Farm Bureau v. City of Hanford* (1990) (222 Cal.App.3d 692, 720-721). That case held that the “ratio theory,” which “focuses upon the ratio between the project’s impacts and the overall problem” is inconsistent with CEQA because “the greater the over-all problem, the less significance a project has in a cumulative impacts analysis.” Instead, “[t]he relevant question to be addressed in the EIR is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin.” (*Id.* at 718.) The Court noted the nature of “air pollution, where thousands of relatively small sources of pollution cause a serious environmental health problem.” (*Id.* at 720.)

The *Kings County* case has been affirmed repeatedly, and the “ratio theory” which compares the project to background levels of pollution has been uniformly rejected. (See, *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184; *Los Angeles Unified v. City of Los Angeles* (1997) 58 Cal. App. 4th 1019 at 1024-1026 (EIR improperly concluded that a project’s noise impacts were insignificant because project added only 3 decibels and background level was 72 decibels; court rejected use of the “ratio theory”).) The Addendum commits this very same error by using a “ratio theory” to dismiss the CPVC Project’s impacts.

The absurdity of this approach is evident from the fact that there are few, if any, projects in the entire state that generate one to five percent of the total VOC pollution generated in the entire state. Dr. Fox reviewed the California Air Resources Board database and did not find any facilities or projects that come close

to generating one percent of the entire state VOC inventory. (Dr. Fox Comments §I.A.) Even the largest petroleum refineries do not generate such a high level of emissions.

Thus, if the Addendum's approach were allowable, an EIR would never be required for any project, not even construction of a new refinery or power plant. This is patently absurd, and violates the "foremost principle" in interpreting CEQA . . . that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language " (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 563-564.)

**b) Addendum Improperly Uses a Non-CEQA Threshold for CEQA Purposes**

CEQA encourages public agencies to adopt thresholds of significance to guide lead agencies in the initial study process to determine if a project may have significant environmental impacts. (Pub. Resources Code § 21082; CEQA Guidelines § 15064.7.) These significant thresholds are then applied by lead agencies to all CEQA "projects," including the promulgation or alteration of rules and regulations, to determine if a "project" may have a significant effect on the environment.

A significance threshold is defined as an "identifiable quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (CEQA Guidelines § 15064.7.) Government agencies throughout California have formally adopted significance thresholds as guidelines for the implementation of CEQA. (Remy, Thomas & Moose, *Guide to CEQA*, *supra*, p. 172 )

The courts have rejected attempts to use significance thresholds that were not adopted for CEQA purposes. The court in *Communities for a Better Environment v. Calif. Resources Agency* (103 Cal. App. 4th 98, 112-113) found that while CEQA-specific significance thresholds are allowable and encouraged, it would be a violation of CEQA to rely on regulatory thresholds that were not adopted for CEQA-specific purposes. The Court stated that the use of "existing regulatory standards . . . address[ing] a particular category of impact" would violate CEQA's "fair argument" standard. (*Id.*)

Thus, an agency must rely upon CEQA-significance thresholds adopted pursuant to procedures set forth in CEQA section 15064.7, but an agency may not rely on other thresholds adopted for non-CEQA purposes. The Addendum does exactly the opposite

The San Joaquin Valley APCD has adopted specific guidelines rejecting the use of atmospheric models for CEQA purposes due to their lack of sensitivity:

“A violation of air quality standards can be predicted for pollutants that can be modeled for atmospheric concentration. This is the case for carbon monoxide for which violations can be predicted using a dispersion model. Ozone, however, is the product of a photochemical reaction that may occur many miles away from the source of emissions. Although atmospheric ozone models exist, they are only sensitive enough to register changes caused by the largest projects. What is more important for determining ozone impacts is a project’s contribution to existing violations of the ozone standard in the SJV. By comparing a project’s ozone precursor emissions [VOCs] with emission levels considered important under state law, this impact can be evaluated. One such level is the stationary source emissions offset threshold required by the CCAA.”  
(Appendix 44.)<sup>13</sup>

In other words, using an atmospheric ozone model to attempt to determine whether a project will have significant impacts within the meaning of CEQA is similar to using a bathroom scale to measure the weight of a slice of bread. The scale is simply not sensitive enough to weigh the bread, and it is likely to appear as if there is nothing there at all. Of course, from the perspective a hungry person, the piece of bread may be very significant. (Fox Comments §H 2.)

Contrary to the Addendum’s representations, the California Air Resources Board (“CARB”) never endorsed the Addendum’s use of the sensitivity of an atmospheric model for CEQA purposes. The HCD asked CARB to confirm that “the sensitivity of an air model for ROG [VOCs] is in the range of 1 to 5% of the inventory.” However, CARB declined to confirm this statement, instead explaining that CARB’s guidance “recommends that photochemical models may be used on a case by case basis to evaluate control measures when the change in average emission density over the entire modeling domain is 1-5% or greater. Use of models for a smaller emission changes requires additional technical justification.” (Appendix 22, E-mail from John DaMassa, CARB, to Bill Staack, HCD, Re: Sensitivity of air quality models, March 3, 2005.)

CARB did not, as claimed in the Addendum (p. 19, note 28), state that “the sensitivity of air quality models requires emissions in the range of 1 to 5% of the existing inventory for the air models to show changes in existing air quality” (Addendum, note 28, p. 21.)

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<sup>13</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD), *Guide for Assessing and Mitigating Air Quality Impacts*, p.22 January 10, 2002

### **3. CEQA Significance Thresholds Apply to Rule and Regulatory Changes**

As discussed above, CEQA significance thresholds apply to CEQA projects, including regulatory changes, not thresholds adopted under other laws. When compared to duly-adopted CEQA significance thresholds, there is no question that the CPVC Project will have very significant air quality impacts.

As discussed above, California's air quality management districts, such as the South Coast Air Quality Management Air District ("SCAQMD"), the Bay Area Air Quality Management District ("BAAQMD"), San Joaquin Valley Air Pollution Control District ("SJVAPCD") and the Sacramento Metropolitan Air Quality Management District ("SMAQMD"), among many other California air quality agencies, have adopted quantitative significance thresholds for CEQA purposes for the most common air pollutants, such as VOCs, nitrogen oxides (NOx), and others.<sup>14</sup>

The VOC significance thresholds in the areas most affected by the CPVC Project range from 55 pounds per day to 80 pounds per day. SCAQMD has adopted a significance threshold of 55 pounds per day for operational VOC emissions. (South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993, p. 6-2 (Appendix 41).) BAAQMD has adopted a significance threshold of 80 pounds per day for operational VOC emissions. (Bay Area Air Quality Management District CEQA Guidelines, 1999, p. 16 (Appendix 40).) SMAQMD has adopted a significance threshold of 65 pounds per day for operational VOC emissions (Appendix 43). SJVAPCD has adopted a CEQA significance threshold of 55 pounds per day for operational VOC emissions. (Appendix 42).<sup>15</sup>

These agencies regularly apply their significance thresholds to all CEQA "projects," including the adoption, alteration or rescission of rules and regulations. SCAQMD's December 22, 2004 environmental assessment (EA) for its proposed amendments to SCAQMD Rule 1168 for CPVC adhesive and sealant applications is particularly instructive. It demonstrates SCAQMD's practice of applying its significance thresholds to air quality impacts resulting from changes to rules and regulations. It also provides an example of directly applying significance thresholds to the approval of a rule changes affecting the use of CPVC (Appendix 45, SCAQMD, Final Subsequent Environmental Assessment for: Proposed Amended Rule 1168 – Adhesive and Sealant Application, SCAQMD No. 041104JJKK, December 24, 2004). This 2004 EA evaluated the impacts of delaying a scheduled reduction of VOC content limitations for CPVC cements set forth in Rule 1168. For

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<sup>14</sup> VOCs are also referred to as reactive organic compounds (ROC) and reactive organic gases (ROG) by some agencies.

<sup>15</sup> Ten tons per year equals 55 pounds per day. (10 tons x 2000 pounds/ton / 365 days/year = 55 pounds per day).

example, the Rule 1168 amendment will delay the reduction VOC content limit requirement for PVC/CPVC primers from 650 grams to 250 grams. (*Id.* at 1-10.)

To evaluate the potential environmental impacts of this project, SCAQMD applied its adopted operational significance threshold for VOCs (55 pounds per day), (*Id.* at 4-4), and compared the threshold to the increase in emissions that would result from the rule changes. SCAQMD concluded that the rule change would forgo 1,640 pounds of VOC reduction per day, which would exceed SCAQMD's significance threshold of 55 pounds per day, creating a potentially significant air quality impacts. (*Id.* at 4-12.) An EIR was therefore required and prepared.

Beyond the above 2004 EA, SCAQMD consistently applies its significance thresholds to rule changes when determining how to comply with CEQA. SCAQMD prepared an EA in February 2005, evaluating a rule delaying the implementation of low-VOC limitations for solvent cleaning operations. The EA determined that the rule change would have a significant adverse air quality impact because a VOC emission reduction delay of 6,050 pounds per day clearly exceeds the 55-pound per day operational CEQA significance threshold. (Appendix 46, SCAQMD, Draft Subsequent Environmental Assessment: Proposed Amended Rule 1171 – Solvent Cleaning Operations, February 9, 2005, pp. 4-2, 4-6.) SCAQMD prepared another EA in March 2005, evaluating the rescission of a gel coat application technique requirement, because the air quality impacts of the project were considered significant because “emission reductions forgone are over the 55 pounds per day regional emissions threshold for operations.” (Appendix 47, Notice of Completion of a Draft Subsequent Environmental Assessment (SEA) for Proposed Amended Rule (PAR) 1162 – Polyester Resin Operations, March 16, 2005, pp. 4-3 – 4-5.)

SMAQMD also applies its quantitative CEQA air quality significance thresholds to rule changes. For example, it prepared a negative declaration in January 2005 for the 2003 Triennial Report. SMAQMD determined that if one of its fuel requirements increased ROG emissions beyond the 65 pound per day operational CEQA significance threshold, then the impact to the environment would be significant and an EIR would be required. To avoid triggering this impact, the District opted to limit its use recommendation of that fuel to avoid creating significant impacts. (Appendix 48, SMAQMD, Negative Declaration and Initial Study 2003 Triennial Report, January 2005, p. 24.)

BAAQMD also reviews its regulatory programs under CEQA. For example, BAAQMD prepared an EIR for amendments to its regulation for architectural coatings (house paints) due to increased VOC emissions that would exceed the 80-pound per day CEQA significance threshold from the many homes that would be painted each day. (Appendix 49, BAAQMD, Final EIR. Proposed Amendments to Regulation 8, Rule 3: Architectural Coatings; *see also*, *Dunn-Edward v. BAAQMD*, *supra*, 9 Cal App 4th 644.)

The practice of applying adopted quantitative significance thresholds to rule adoption, changes and rescission is well established. Thus, when considering whether the adoption of CPVC for statewide use may have significant adverse environmental impacts, HCD must apply these significance thresholds. Applying the adopted significance threshold of each air district will indicate whether HCD's regulatory proposal will have adverse air quality impacts that the respective air districts would consider significant.

**4. Substantial Evidence Exists That CPVC Solvents May Emit VOCs at Levels Far Above Applicable CEQA Significance Thresholds**

Dr. Fox calculated VOC emissions from the Project using various methodologies. Under every possible scenario, the Project's impacts far exceed applicable CEQA significance thresholds.

**a) The Project's VOC Emissions Are Significant Using Addendum's Own Emissions Calculations**

Dr. Fox first assumed that the Project's VOC emissions estimate contained in the Addendum was correct.

**(1) Statewide Emissions Are Significant**

The proposed project would make it a mandatory ministerial duty for all local building officials to approve the use of CPVC drinking water pipe in any residential building for which CPVC was specified since local building officials must comply with the CPC. The State has fully preempted the field of building standards and building regulation in order to establish a uniform set of minimum statewide building standards. (*Baum Electric Company v. City of Huntington Beach* (1973) 33 Cal.App.3d 573, 581.) The courts have held that ensuring "protection of public health and safety" is the "paramount policy" underlying State preemption and the requirement that local governments comply with State building standards. (*Ibid.*) Thus, the proposed project could potentially result in 100% market penetration of CPVC pipe since local building officials will be divested of authority to deny approval to CPVC. The Addendum itself assumes 100% market penetration for CPVC drinking water pipe.

There is no CEQA significance threshold for VOC emission increases that applies statewide. In such cases, it is common to adopt the thresholds used by other agencies. (See Governor's Office of Planning and Research, *Thresholds of Significance: Criteria for Defining Environmental Significance*, CEQA Technical Advice Series, September 1994.) Twenty-one of California's 35 air districts have

adopted CEQA guidelines that include significance thresholds for VOC emission increases. These thresholds range from 5 lb/day to 550 lb/day. (Fox Comments §I.B.1)

The 1159-pound per day increase in VOC emissions from the Project exceeds the highest of the thresholds adopted by these 21 air districts, 550 lb/day. Therefore, the increase in VOC emissions from the Project is significant when evaluated on a statewide basis using the highest adopted thresholds for any of 27 air districts.

Dr. Fox also calculated a housing-unit-weighted VOC significance threshold by multiplying the threshold of each district by the fraction of new housing units in 2004 in that district and summing. For example, if a district has a VOC significance threshold of 100 lb/day and 10 percent of the new housing units in 2004 were permitted in this district, its threshold would contribute  $100 \times 0.1$  or 10 lb/day to the statewide threshold. The statewide weighted-average VOC significance threshold is 120 lb/day. The increase in VOC emissions from the project exceeds this threshold by about a factor of ten. Therefore, the increase in VOC emissions from the project is significant when evaluated on a statewide basis using a weighted-average VOC significance threshold. (Fox Comments §I.B.1.)

Thus, VOC emissions from the project are significant.

## **(2) Air District-Wide Emissions Are Significant**

Dr. Fox analyzed the Project's impacts on an air district-wide basis and then compared the emissions generated per district to each district's CEQA significance thresholds. Dr. Fox concluded that the Project described in the Addendum will generate emissions far above the CEQA significance thresholds in many air districts throughout the state.

Dr. Fox distributed the Addendum's estimate of 1,159 lb/day among the 35 air districts in California based on new housing units permitted in each basin for 2004. She then compared the VOC emissions increase in each air district with operational and construction<sup>16</sup> significance thresholds adopted by each air district. The results, shown below indicate the increase in VOC emissions in six air districts would exceed CEQA significance thresholds. About 60.5% of the new housing

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<sup>16</sup> It is appropriate to evaluate this Project under operational, not construction CEQA significance thresholds since the Project emissions will be generated every day for years in the future, and not on a short-term basis as with a construction project. For this reason, air districts customarily review similar projects with reference to operational, not construction CEQA significance thresholds. (See, SCAQMD Rule 1168 EA). However, Dr. Fox's analysis shows that the distinction is academic since the Project's emissions exceed both operational and construction CEQA significance thresholds.

permits were issued in these six districts. (Fox Comments §I.B.1.) Dr. Fox's results are summarized as follows.

<b>Air District</b>	<b>Project Emissions</b>	<b>Operational Threshold</b>	<b>Construction Threshold</b>	<b>Significant?</b>
BAAQMD	133.6 pounds per day (ppd)	80 ppd	80 ppd	Yes
SMAQMD	71 ppd	65 ppd	None	Yes
SJVAPCD	163 ppd	55 ppd	55 ppd	Yes
SLOAPCD	11.7 ppd	10 ppd	None	Yes
SCAQMD	308 ppd	55 ppd	75 ppd	Yes
Ventura AQMD	14.7 ppd	5 ppd	None	Yes

Thus, it is clear that even using the Addendum's own emission calculation, and dividing that figure among the various air districts in proportion to construction, the Project will have significant air impacts far above applicable CEQA significance thresholds.

### **(3) Emissions Are Significant on Development-by-Development Basis**

Dr. Fox also calculated emissions on a development-by-development basis and concluded that even on this most conservative approach, the Project's emissions will be significant. (Fox Comments §I.B.3.)

The Addendum estimated that 1.36 pounds of VOCs would be emitted per day during the piping of each residential unit. (Addendum, p. 19.) The declaration of Mr. John Hall, a California licensed plumber with over 20 years of experience, indicates that 20 homes per day could be piped on the same day in a large residential development. (Appendix 50.) The piping of these 20 homes would release 27 lb/day of VOCs ( $20 \times 1.36 = 27$ ). (Fox Comments §I.B.3.)

These emissions (27 lb/day), by themselves, exceed the operational significance thresholds of several air districts, including 5 lb/day adopted by Ventura County, 10 lb/day adopted by the San Luis Obispo County and Placer County, and 25 lb/day adopted by Butte, Colusa, Feather River, Glenn, and Northern Sierra, Santa Barbara, Shasta, Tehama County, and Ventura County Air Pollution Control Districts. (*Id.*) The operational thresholds are used when a district has not adopted a construction threshold. None of the above districts have adopted different construction emission thresholds. Thus, the VOC emissions from individual housing developments in these districts would be significant. (*Id.*)

The emission increase from a single development does not individually exceed the construction significance thresholds adopted by El Dorado APCDP (82 lb/day), the SJVAPCD (55 lb/day), and the SCAQMD (75 lb/day), the only three districts with such thresholds, based on the Addendum's estimate. However, Dr. Fox concludes that if more accurate emission calculations were used, the emission increase from an individual development project would exceed these thresholds for some conditions in these districts as well. (*Id.*)

Also, the emissions from a single large housing development are cumulatively significant. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (CEQA Guidelines section 15355(a).) "Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines, Section 15355(b).) CARB, for example, concluded in a recent rulemaking that "Although each consumer product may seem to be a small source of emission, the cumulative use of these products by over 35 million Californians results in significant emissions " (*Id.*) The Project's emissions are cumulatively significant for several reasons.

First, only 40 homes would have to be piped to exceed the SJVAPCD's construction significance threshold of 55 lb/day ( $55/1.36 = 40.4$ ) and 55 in the SCAQMD to exceed its construction significance threshold of 75 lb/day ( $75/1.36 = 55$ ). The CIRB indicates that 56,275 new homes were permitted in 2004 in the SCAQMD and 29,724 in the SJVAPCD. This amounts to 154 new units per day in the SCAQMD and 81 new units in the SJVAPCD, assuming 365 workdays per year. (The actual number of units per day would be higher because there are only 250 workdays in a year.) (*Id.*)

Thus, VOC emissions from an individual housing development would cumulatively exceed the threshold of 75 lb/day in both the SCAQMD and SJVAPCD and are cumulatively significant. These increases are cumulative because all the houses are in the same air basin and ozone is a regional pollutant, affecting the entire basin where emissions occur. (*Id.*)

Thus, the Project will have significant construction related emissions exceeding applicable CEQA significance thresholds in at least Ventura County, San Luis Obispo County, Placer County, Butte County, Colusa County, Feather River APCD, Glenn County, Northern Sierra APCD, Santa Barbara County, Tehama County, Ventura County, SCAQMD and SJVAPCD (*Id.*)

**b) The Addendum's Emission Estimate Is Not Based on any Substantial Evidence**

The Addendum assumes that 1.36 pounds of VOCs are emitted per house plumbed. This value was estimated by assuming that 2 pounds of "adhesive product" would be used and that 68 percent of the 2 pounds would be VOCs. (Addendum, p. 19.)

As discussed in the project description section above, this estimate is not based on any substantial evidence. It appears to be based upon a telephone conversation between HCD staff and a person identified only as "Harry." HCD attorney Bill Staack requested a "semi-accurate estimate on the amount of adhesive would [sic] be used in a house to install CPVC water pipe." (Appendix 22, e-mail from Bill Staack, HCD, to Doug Hensel, HCD, Re: Adhesive used, November 3, 2004.) "Harry" claims to have plumbed a single house with CPVC and allegedly used "2 ½ pints of CPVC cement to do a 3bdrm, 3bath home" (Appendix 22, E-mail from Doug Hensel to Bill Staack, Re: Adhesives product used, November 9, 2004.) Dr. Fox's calculations indicate that this amount of low-VOC cement weighs about 2 pounds.<sup>17</sup> (Fox Comments §E).

This "semi-accurate" estimate simply is not adequate to constitute adequate "documentation of the factual basis for the finding in a negative declaration that a project will not have a significant effect on the environment; . . ." (CEQA Guidelines § 15063 (c)(5).) The negative declaration fails to "disclose the data or evidence upon which the person(s) conducting the study relied." Instead, the document is based on nothing more than "mere conclusions [that] simply provide no vehicle for judicial review." (*Citizens Ass'n for Sensible Devel. of Bishop Area v. Inyo, supra*, 172 Cal.App.3d at 171; *Sundstrom v. Mendocino* (1988) 202 Cal.App.3d 296.)

Also, as discussed above, the 2 pounds per house semi-accurate estimate also assumes that 100% of plumbers will use a one-step cement process that is currently illegal and unlikely to be the actual field practice as discussed in more detail below. Assuming such widespread use of one-step cements is neither reasonable nor realistic, and simply cannot form the basis of an adequate CEQA document.

In short, the Addendum's emissions estimate is based on no substantial evidence at all.

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<sup>17</sup> The specific gravity of Otey low-VOC cement, as reported on the MSDS, is 0.96. Specific gravity is the ratio of the density or weight of a product to the density or weight of water. The density of water is 7.48 pounds per gallon. Thus, 2-1/2 pints of Otey low-VOC cement would weigh about,  $(0.96)(7.48 \text{ lb/gal})(0.125 \text{ gal/pint})(2.5 \text{ pints}) = 2.24 \text{ lbs}$ .

**c) The Project's VOC Emissions Will Be Three Times Higher Than Estimated in the Addendum**

Dr. Fox conducted detailed calculations based on reliable manufacturer's literature, recognized expert treatises, peer-reviewed articles, established emission factors, and other reliable scientific data. Dr. Fox calculated that 3.81 pounds of VOCs would be emitted for every home plumbed with CPVC. This is almost three times higher than estimated in the Addendum. (Fox Comments §E.)

Dr. Fox assumed that plumbers would comply with the law and would use the two-step process required by the CPC. Dr. Fox noted that even if given the option of the one-step process, most plumbers prefer the two-step process and most treatises recommend the two-step process because it produces a better, more leak-proof joint. Dr. Fox relied on manufacturer's literature and calculation methodologies developed by industry experts to calculate that a typical house would require the use of about 4 pints of cement (3.7 lbs) and 3 pints of primer (2.9 lbs). (*Id.*)

Dr. Fox relied on CIRB data to conclude that the typical house is 2,000 square feet, with two bathrooms, one bathtub, one kitchen, and one washroom, which is conservative. (Fox Comments §E.2.) She relied on calculations performed by professional plumbers based on standard blueprints to conclude that the average house would have 211 fittings, each of which would require cement and primer. (*Id.*) Dr. Fox calculated the amount of cement and primer required per joint in accordance with manufacturer's literature and calculation methodologies developed by industry experts. (*Id.*, §E.3.)

To be conservative, Dr. Fox assumed that vendors will be able to comply with proposed primer and cement VOC limits (490 g/L of VOC for cements and 550 g/L for primers). (Fox Comments §E.4) Her calculation would have been much higher if she assumed plumbers would use the higher VOC products currently on the market (4.11 pounds per house). (*Id.*)

Applying these factors, Dr. Fox calculated that 3.81 pounds of VOCs would be generated by each residential unit plumbed with CPVC. This is three times higher than the 1.36 pounds per unit estimated in the Addendum. (*Id.*, §E.5.)

Furthermore, Dr. Fox notes that her calculation likely underestimates actual VOC emissions from CPVC, for several reasons. First, high VOC cleaners are often used to clean dirt, grease, ink and other substances from CPVC pipe. (*Id.* §E.6.a.) Neither Dr. Fox nor the Addendum included any emissions from cleaners.

Second, manufacturers' estimates of cement and primer usage substantially underestimate actual usage in the field. The CPC recommends "liberal" usage of

cements (CPC section 316.1 2) as does manufacturers' literature. Also, there are often accidental spills of cements and primers on job sites. (Appendix 21; Fox Comments §E 6.b.) A survey of expert plumbers found that in the field, actual usage of cements often exceeds manufactures estimates by 100%. (Appendix 51; Appendix 50.)

Third, the Addendum wrongly assumed that plumbers will work 7 days a week, and on holidays, when in fact plumbers generally work 250 days per year, not 365 as assumed by the Addendum. (Appendix 50; Appendix 51 ) The Addendum also failed to consider seasonal fluctuations in construction schedules that result in more construction in the dry summer and fall months, and less during the wet winter months. (*Id.*) Finally, the Addendum failed entirely to consider growth in housing construction that is predicted by every reliable source. All of these factors will increase the maximum daily VOC emissions. (Fox Comments §E.6.)

Thus, actual emissions are likely to be substantially higher than calculated by Dr. Fox. Neither the Addendum nor the 2000 mitigated negative declaration considered any of these factors. Thus, the Addendum substantially underestimates project emissions.

**d) Baseline Emissions From Copper Pipe and Limited Use of CPVC Pipe Are Minimal**

Dr Fox next calculated the baseline emissions generated by the current use of copper pipe for 96% of homes and the limited use of CPVC in 4% of homes in areas with corrosive soil or water. The Addendum ignored the baseline entirely.

CEQA requires that a project's impacts be compared to the "baseline." The "baseline" is the "physical environmental conditions in the vicinity of the project as they exist at the time environmental analysis is commenced." (CEQA Guidelines §15125(a); *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal App. 4th 99, 124-125.) The environmental impacts that will be created by the project in the future should be compared to the baseline to determine whether the project will have significant impacts. (*Id.*) Environmental review was commenced in 2004, so that is the baseline year.

HCD's record indicates that in 2004 less than 4% of homes were plumbed with CPVC (Fox Comments, p 1 ) Much less CPVC was used in the three prior years (1-2%), but to be conservative, Dr. Fox used the 4% figure from 2004. (Fox Comments §G 1.) Dr. Fox also assumed that the remaining 96% of homes would be plumbed with copper pipe. Again, this is an overly conservative approach (will overestimate baseline emission) since some other plumbing methods are also used occasionally with local approvals, such as PEX, which have little or no VOC emissions due to mechanical joining methods (Fox Comments §G.4.)

Dr. Fox calculated emissions from solder, flux, and torches using acetylene, propane or MAPP gas which are used to join copper pipe. She used very conservative assumptions such as assuming that 100% of the flux is evaporated. (Fox Comments, F.2.) She also assumed that two pounds of solder and four ounces of flux would be used for each house, which is twice as much as estimated in the 1983 Environmental Review Document analyzing CPVC, and twice as high as plumbing experts estimated. (Fox Comments §F.2; Appendix 50; Appendix 101 ) Using standard US EPA emission factors known as AP-42, Dr. Fox calculated that the vast majority of fuel used for torches is combusted and reduced to carbon dioxide and water, making the torches a very small contributor to VOC emissions. (Fox Comments §F.2.c.)

Taking all of these factors into consideration, Dr. Fox calculated that the plumbing a house with copper pipe would generate only 0.26 pounds of VOCs. (Fox Comments §F.2.d.) Thus plumbing a house with copper would generate 93% less VOC emissions than would be generated by plumbing the same house with CPVC (3.81 pounds of VOCs per unit). *In other words, CPVC pipe will generate 1400% more VOC pollution per house (14 times) than would copper.* (3.81 divided by 0.26.) Even using the Addendum's underestimation of 1.36 pounds of VOCs per house, plumbing the same house with copper would generate 80% less VOC emissions than CPVC. In other words, even using the Addendum's estimates, CPVC pipe will generate 523% more VOC pollution per house (5 times) than would copper. (1.36 divided by 0.26.)

Thus, no matter what number of homes would be plumbed each year, plumbing the homes with copper rather than CPVC would generate between 93% and 80% less VOC emissions than plumbing the same homes with CPVC. If all 852 homes assumed to be piped each day in the Addendum were plumbed with copper, it would only generate 222 pounds of VOCs per day, compared to the 1159 pounds per day estimated in the Addendum and the more accurate 3,246 pounds of VOCs per day using Dr. Fox's figures for VOCs emissions generated by CPVC (852 units x 3.81 pounds of VOCs per unit = 3,246 pounds of VOCs per day). (Fox Comments)

Dr. Fox calculated the CEQA baseline by adding the emissions in 2004 generated by plumbing 96% of homes with copper pipe (819 units per day at 0.26 pounds of VOCs per unit), and 4% of homes with CPVC (33 units per day at 3.81 pounds VOCs per unit). This yields a 2004 baseline emission of 339 pounds of VOCs per day. (Fox Comments §G 1)

**e) Total Project Emissions Are Dramatically Higher Than Set Forth in the Addendum**

Dr. Fox followed established CEQA methodology by calculating the Project emissions into the future, and subtracting from that the baseline emissions. The Addendum erroneously uses 2004 calculations, but assumes no housing growth in the future. Dr. Fox used California Department of Finance ("CDF") data to calculate housing growth rates for 2010 and 2030. (Fox Comments §G.2.) Based on this data, Dr. Fox calculated that 925 units would be piped in 2010 and 1,134 units in 2030. She calculated that this would generate 3,524 pounds per day of VOCs in 2010 and 4,321 pounds per day of VOCs in 2030 if all of the homes were plumbed with CPVC as is allowed by the code revision and as is assumed in the Addendum. (Fox Comments §G.3.) Dr. Fox then subtracted the baseline emissions to determine the Project emissions that would result from the proposed universal statewide approval of CPVC. The results are set forth below.

**Increase In VOC Emissions  
Due To The Project  
(lb/day)**

	2010 lb/day	2030 lb/day	Assumptions
Post project	3,524	4,321	925 CPVC units 2010 1,134 CPVC units 2030 100% CPVC at 3.81 lb/unit
Baseline (2004)	339	339	819 Cu units at 0.26 lb/unit 33 CPVC units at 3.81 lb/unit
Increase	3,185	3,982	Post project - baseline

These calculations indicate that the Project would increase VOC emissions by 3,185 lb/day in 2010 and 3,982 lb/day in 2030. These emission increases are much higher than the 1,159 lb/day increase calculated in the Addendum. As discussed elsewhere, the Addendum used the wrong procedure to calculate emission increases. Further, as discussed above, even the Addendum's estimate is significant when evaluated using proper significance thresholds.

These emissions are significant on a statewide basis. They exceed the maximum CEQA threshold established by any air district, 550 lb/day, and the statewide population-weighted CEQA threshold of 122 lb/day, as discussed above. (Fox Comments §G.3.)

These emissions, when distributed among the air districts based on CDF population projections, would exceed CEQA significance thresholds in several districts. (Fox Comments Table 10.) The Project would generate emissions in the

SCAQMD far in excess of the SCAMQD's construction significance threshold of 75 lb/day -- by about a factor of twenty or more in both 2010 (951 lb/day) and 2030 (1,190 lb/day). The projected emissions from the Project in the SJVAPCD would far exceed the SJVAPCD's construction and operational significance threshold of 55 lb/day, by a factor of five or more in 2010 (266 lb/day) and 2030 (333 lb/day) (Fox Comments §G.3 )

The Project would generate emissions exceeding the CEQA operational significance thresholds in ten air districts that contain about 82% of the State's 2004 population: Antelope Valley APCD, Bay Area AQMD, Butte County APCD (2030 only), Mojave Desert AQMD, Sacramento Metropolitan AQMD, San Joaquin Valley AQMD, San Luis Obispo County APCD, Santa Barbara County APCD, South Coast AQMD, and Ventura County APCD. (Fox Comments §G.3.) These districts include two that have the most severe ozone air pollution in the United States -- the South Coast and San Joaquin Valley. The increases in VOC emissions in these ten districts would be significant. (*Id.*)

The VOC emission increase also would be very large in the San Diego County APCD, 279 lb/day in 2010 and 349 lb/day in 2030. (Fox Comments §G.3.) The air in this district frequently violates ozone ambient air quality standards. (*Id.*) This district has not adopted CEQA significance thresholds. However, in the past it has used its New Source Review Rule 20.3 offset threshold of 15 ton/yr (82 lb/day) or the SCAQMD CEQA Guidelines (55 lb/day), common bases for establishing CEQA significance thresholds. Thus, the VOC emission increase in San Diego County is also significant. (*Id.*)

These emissions also exceed construction and operational thresholds for a single housing development. (Fox Comments §G.3) The Project would increase VOC emissions by 3,185 lb/day from piping 925 units with CPVC in 2010 and by 3,982 units from piping 1,134 units in 2030 (*Id.*) Thus, each CPVC housing unit would increase VOC emissions by about 3.5 pounds in the future.<sup>18</sup> (*Id.*) Up to 20 houses can be piped on the same day at a large residential development. (Appendix 50 ) Thus, a single residential development could increase VOC emissions by 70 lb/day ( $3.5 \times 20 = 70.0$ ). This exceeds the CEQA operational significance threshold of 12 air districts and the construction significance threshold of the SJVAPCD. (Fox Comments §G.3.)

All sources of VOC emissions must be considered when evaluating the significance of a "construction" project. VOCs are also emitted from architectural coatings and exhaust from construction equipment. These additional sources would amount to more than 10 lb/day at a large residential development project. Thus, VOC emissions from piping 20 houses per day plus other contemporaneous VOC

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<sup>18</sup> The future increase is lower than the increase per house calculated in Table 10 due to the specific assumptions included in Dr. Fox's calculations in Table 9.

emissions would exceed the SCAQMD's (75 lb/day) and El Dorado County APCD's (82 lb/day) CEQA construction significance thresholds. (Fox Comments §G.3.)

Finally, the increase in VOC emissions that would be caused by the Project, summarized in Table 10, are cumulatively significant for both construction and operation, regardless of what geographic division is used to evaluate the significance – statewide, district wide, or project level -- because all past, present, and future projects must be considered. Thus, even though only 20 houses per day would be piped at a single development, a cumulative analysis must include the houses piped in the past, present, and future at neighboring developments. (Fox Comments §G.3.)

In short, no matter how the Project's emissions are calculated, the universal statewide approval of CPVC pipe for drinking water will have significant adverse impacts on air quality.

## **5. The Project Will Contribute To Violations of Ozone and Particulate Matter Ambient Air Quality Standards**

Dr. Fox concludes that authorizing the universal statewide use of CPVC drinking water pipe will contribute to violations of ambient air quality standards for ozone and particulate matter. This is a significant impact as a matter of law under CEQA. (Fox Comments §§H, I.)

CEQA Guidelines Appendix G identifies a mandatory finding of significance for any project that will "contribute substantially to an existing or projected air quality violation." (CEQA Guidelines Appen. G, III.b.) It also identifies as a significant effect any "conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal project, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect." (CEQA Guidelines Appen. G, IX.b; see also, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184), *Los Angeles Unified v. City of Los Angeles* (1997) 58 Cal. App. 4th 1019 at 1024-1026 (project had significant impact of contributing to existing noise levels).)

For example, in *Kings County Farm Bureau v. City of Hanford* (222 Cal.App.3d 692, 720-721), a power plant had a significant impact because it contributed to existing ozone pollution in the region when the region already exceeded ambient air quality standards for ozone. The CPVC project is similar to the project in Kings County because it will also contribute to existing violations of ambient air quality standards for ozone. Ambient air quality standards are prepared expressly for the purpose of avoiding environmental and human health impacts. (*Whitman v. American Trucking Assoc.* (2001) 531 U.S. 457.)

As Dr. Fox explains, ozone is created from the reaction of VOCs and NOx with sunlight. By increasing VOC emissions by between 1400% and 523% over the levels that would have been generated by using copper pipe, the universal statewide approval of CPVC residential drinking water pipe will contribute to existing ozone violations. (Fox Comments §H.1 ) Dr Fox also explains that the Project will generate particulate matter emissions that will contribute to violations of particulate matter violations in many areas of the state (Fox Comments §I.)

Dr Fox emphasizes that ozone has severe health impacts including causing acute respiratory problems, asthma, decreases in lung functioning, and many other impacts. (Fox Comments §H 1.) California and US EPA have both set lower ozone ambient air quality standards since 2000, when the MND was published. On April 15, 2004, US EPA designated all of parts of 35 counties in California to be out of attainment with the new federal 8-hour ozone standard. (Fox Comments §H.3.) Most of the new construction, and thus most of the VOC emissions will be concentrated in areas that exceed ambient ozone standards, such as the SCAQMD and SJVAPCD. The increased VOC emissions from the Project would therefore be significant. (*Id.*) Due to the new ambient standards and new research on the harm caused by ozone, these impacts were not known and could not have been known at the time of the 2000 MND. (Fox Comments §H.3, *Security Environmental Systems v. SCAQMD* (1991) 229 Cal. App. 3d 110.) They are significant and must be considered in an EIR.

Dr. Fox also explains that the Project will contribute to violations of ambient air quality standards for particulate matter (PM 2.5 and PM 10). (Fox Comments §I). She explains that substantial new scientific research that has been published since 2000 indicates that these small particles easily penetrate into the airways and lungs where they may produce harmful health effects such as the worsening of heart and lung diseases. (Fox Comments §I.2.) Thus, the U.S. EPA and CARB have both promulgated ambient air quality standards on PM10 and PM2.5 to protect public health. The PM2.5 standards and California's revised PM10 standard did not exist at the time that the 2000 MND was adopted and thus these impacts could not have been evaluated. (*Id.*) Dr. Fox did not find any evidence that HCD has ever evaluated the impact of the Project on particulate matter. (*Id.*)

Both California and the US EPA have lowered their PM 10 standards and adopted new PM 2.5 standards since 2000. In February 2004, California for the first time identified areas that do not currently comply with the new federal PM2.5 standards (Fox Comments §I.2.):

**Table 12**  
**Areas Classified by CARB**  
**as Nonattainment for Federal PM2.5 Standards**  
**February 11, 2004<sup>19</sup>**

<b>L Nonattainment Area</b>	<b>Areas Included</b>
1. South Coast Air Basin	Western Los Angeles (including Catalina and San Clemente Islands), Orange, Southwestern San Bernardino, and Western Riverside Counties
2. San Joaquin Valley Air Basin	San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Western Kern Counties
3. San Diego County**	San Diego County
4. Calexico**	City of Calexico

\*\*Recommended nonattainment for the annual average standard only.

The same areas, as well as additional areas, e.g., most of the Bay Area, Sacramento County, violate California's more stringent PM2.5 ambient air quality standard. (Fox Comments §I.2.)

The areas that currently violate the federal and California PM2.5 standards are the areas with the highest growth rates where over 50% of the new residential construction and repiping jobs occurred in 2004 and are projected to continue to occur. Use of CPVC generates particulate matter in at least five ways. First, a portion of the Project's VOC emissions would be converted to organic aerosols, a component of PM10 and PM2.5 and thus would contribute to existing violations of federal PM2.5 standards. Second, particulate matter is also emitted during the manufacturing of CPVC pipe, fittings and joining compounds. Third, particulate matter is emitted during manufacturing of CPVC primers and cements. Fourth, particulate matter is emitted during the installation of CPVC. Fifth, particulate matter is generated during the transport and delivery of CPVC products. This is a significant air quality impact that was not known in 2000 and requires review in an EIR. (Fox Comments §I.)

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<sup>19</sup> [http://www.arb.ca.gov/design/pm25design/encl1\\_feb11\\_04.doc](http://www.arb.ca.gov/design/pm25design/encl1_feb11_04.doc)

## **6. The Project Will Have Significant Impacts Related to Manufacturing That Have Not Been Analyzed**

CEQA requires analysis of a project's "indirect" impacts such as manufacturing that will be caused by the project. (*Kings Co. Farm Bureau v. Hanford* (1990) 221 Cal App.3d 692 at 717, CEQA Guidelines, 14 CCR Sec. 15064(d); CEQA Guidelines, Appendix G.) For example, in *Building Code Action v. Energy Resources Conservation and Development Comm.* (1980) (102 Cal. App. 3d 577), the court addressed a CEQA challenge to an agency decision requiring the use of double-paned glass. The court agreed that the proposed regulation may result in the increased production of glass at various glass factories throughout the state. The court also agreed that there was a fair argument that increased glass production caused by the regulation may have an adverse impact related to increased pollution from glass factories. The court held that CEQA review was required to analyze this impact.

Similarly, the universal statewide approval of CPVC drinking water pipe will greatly increase demand for CPVC pipe, cement, primers and cleaners. This is likely to increase manufacturing of these products at factories in the state, thereby causing increased pollution from those factories. This is a potentially significant impact that must be reviewed in an EIR. In fact, HCD admitted that manufacturing impacts were potentially significant in the 1982 Initial Study for plastic pipe. (Appendix 5.) That document stated:

"Should the expanded use of plastic plumbing pipe be approved in California, a significant demand may be produced for additional pipe. This demand may lead to increased production or a general increase in activity at major chemical plants. Increased production may produce an increase in air emissions with a potential decrease in ambient air quality.  
(*Id.* section III.2 a.)

On the basis of these and other significant impacts, HCD concluded:

"on the basis of this initial evaluation, I find approval of the expanded use of plastic plumbing pipe MAY have a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT is required to assess the magnitude of any potential adverse effects, discuss alternatives to the project as proposed, and determine feasible mitigation measures to reduce identified impacts."  
(*Id.* section IV. Emphasis in original.)

Neither the 2000 MND nor the Addendum analyze this impact at all. Also, the impact from the current Project is far beyond the scope of the impact of the 2000 project since the current project will increase demand for CPVC products by up to 25 times above the limited 2000 approval.

The Project will increase the demand for CPVC pipe, fittings, and joining chemicals. The NSF's product database and other sources indicate that CPVC pipe and fittings, cement, and primers are manufactured in California at eight facilities. (Fox Comments §§C, I; Appendix 52.) The CARB website reports VOC emissions for two of these facilities for 2000. The IPS facility in Gardena (SCAQMD) emitted 18.2 ton/yr of VOCs (100 lbs/day). (Fox Comments §C). The Oatey facility in Newark (BAAQMD) emitted 16.7 ton/yr of VOCs (91.5 lb/day). (*Id.*)<sup>20</sup> The BAAQMD reported emission data for the Oatey facility of 26.78 ton/yr (145 lb/day) as of January 16, 2003. (*Id.*) The VOC emissions originate from storing and blending solvents in tanks, mixers, and dispensers. Some of the solvents used in these processes may also be manufactured in California, further increasing indirect emissions. (*Id.*)

Dr. Fox concludes that the Project will increase the demand for CPVC pipe, fittings, and cementing compounds by up to a factor of 25 in residential construction (an increase of 2500%) (Fox Comments §C) The amount of CPVC joining compound, for example, could increase by up to 147,000 gallons per year.<sup>21</sup> (*Id.*) It is reasonable to assume that a portion of this increase in demand will be met by existing California manufacturers. This would increase VOC emissions from these existing manufacturing facilities, increasing the Project's impact. (*Id.*)

**a) Increased Manufacturing of CPVC Products Will Increase VOC Emissions From Manufacturing Plants**

If the IPS Gardena facility increased production by 60% (55/100), it would result in an increase in operational VOC emissions of 55 lbs/day. This would exceed the SCAQMD operational VOC significance threshold. It is reasonable to assume that a 2500% increase in demand for CPVC pipe, cement and primers may result in a 60% increase in production at this facility. Thus, there is a fair argument that the proposed action may have adverse manufacturing air quality impacts in the SCAQMD. (Fox Comments §C.)

If the Oatey facility in Newark increased production by 54% (80/147), it would result in an increase in operational emissions of VOCs of 80 lbs/day. This would exceed the BAAQMD operational VOC significance threshold. It is reasonable to assume that a 2500% increase in demand for CPVC pipe, cement and primers may result in a 54% increase in production at this facility. Thus, there is a

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<sup>20</sup> See also [www.arb.ca.gov/ei/emissiondata.htm](http://www.arb.ca.gov/ei/emissiondata.htm) (as of April 18, 2005).

<sup>21</sup> From Table 5, the amount of joining compound required in 2030: (1.38 L/house)(1134 houses)(365 day/yr)(0.26417 gal/L) = 150,893 gal. Current demand: (1.38 L/house)(33 houses)(365 day/yr)(0.26417 gal/L) = 4,391. The increase in demand: 150,893 - 4,391 = 146,501 gal.

fair argument that the proposed action may have adverse manufacturing impacts in the BAAQMD. (Fox Comments §C.)

Neither the Addendum nor the 2000 MND made any attempt to analyze manufacturing impacts. The failure of these documents to provide any analysis of manufacturing impacts expands the scope of the fair argument. (*Sundstrom v. Mendocino* (1988) 202 Cal. App. 3d 296, 311 (“If the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record. Deficiencies in the record may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences.”).)

**b) Increased Manufacturing of CPVC Products Will Increase Emissions of Dioxin and Other Toxic Emissions From Manufacturing Plants**

CPVC manufacturing emits toxic chemicals that can cause significant health impacts, including dioxins, organotins, including tributyltin, and solvents. (Fox Comments §II B; Appendix 21, pp 3, 4, 8-13 (Feb. 11, 2005).)

Imported CPVC resin is extruded into plumbing products. The extrusion process emits dioxins (polychlorinated dibenzo dioxins). Dioxins are among the most toxic chemicals known to science and cause adverse health effects, including cancer, birth defects, immune system damage, reproductive dysfunction (including infertility, endometriosis, micropenis, and others), diabetes, and hormonal abnormalities at extremely low levels. (Fox Comments §II.B.1.)

The dioxin emissions during extrusion may result in a significant cancer inhalation risk to both workers and the public (*Id.*) Relying on laboratory analysis conducted on air in a CPVC extrusion plant, and published scientific data, Dr. Fox calculated that dioxin levels created by CPVC extrusion would create a cancer risk of 5 cancers per million. (*Id.*) The California Air Resource Board and the federal Clean Air Act §112(f) and many air districts establish a significance threshold for cancer risk of one per million. (*Id.*, citing, CARB, *Risk Management Guidelines for New and Modified Sources of Toxic Air Pollutants* (July 1993).) The CPVC Project exceeds these thresholds by a factor of five and would therefore be significant. (*Id.*)

Dr. Fox also concludes that the dioxin emissions from extrusion facilities could also pose a significant cancer risk to offsite individuals in commercial or residential areas around the extrusion facility. Thus, by increasing the amount of CPVC that is extruded in California, the Project would increase the risk of cancer from inhalation of dioxins in the workplace and in the areas around the extrusion facilities. This risk is apparently already significant. Thus, the Project would result in a cumulatively significant health impact to both workers and the public. (*Id.*)

Dr. Fox also notes that a large number of other toxic chemicals will be released into the atmosphere during CPVC manufacturing, including organotins. The facilities that manufacture primers and cements use large amounts of solvents – MEK, THF, cyclohexanone, and acetone. These solvents are very volatile and are released into the atmosphere. The BAAQMD, for example, indicates that the Oatey facility in Newark emitted 26.78 ton/yr (147 lb/day) of VOCs, which are apparently all from solvents. (Fox Comments §II.B.2.)

The HCD should evaluate the health impacts of increased emissions of these chemicals due to increased manufacturing. These emissions, coupled with dioxin emissions, are likely to result in a significant public health impact. (Fox Comments §II.B.2.)

#### **D. The Addendum Fails to Adequately Consider and Mitigate for CPVC's Solid Waste Problem**

Incredibly, the Addendum claims that solid waste “is not applicable” to the proposed statewide approval of CPVC. This claim is disingenuous at best and contradicts HCD’s own analysis of this issue in both the 1997 Initial Study *and the 2000 MND*. This claim also is contrary to the identification of CPVC as a “contaminant” to municipal recycling of plastics and other materials. It also ignores the shorter lifespan of CPVC (estimated at 20 to 40 years<sup>22</sup>) and the strong likelihood that it will need to be replaced more often than copper pipes.

The 1997 Initial Study prepared by HCD examined the impact on solid waste disposal that would result from statewide approval of CPVC and determined that it would be “potentially significant. (Appendix 17, pp. 7, 16.) HCD stated expressly that CPVC pipe “would result in problems in solid waste disposal for demolition debris from structures which used CPVC pipe.” (*Id.* at 16.)

The Addendum incorrectly suggests that the 2000 MND determined *statewide* approval of CPVC would not have a potentially significant impact on solid waste disposal. The 2000 MND, however, made no such find. Rather, it implicitly acknowledged that statewide approval may be a problem by expressly stating that its finding with regard to solid waste impacts was “based on the limited number of anticipated residential installations of CPVC.” (Addendum, p. 51-52.) The Addendum cannot rely on the 2000 MND and at the same time ignore the MND’s own findings.

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<sup>22</sup> In 1989, HCD determined that a CPVC or other plastic potable water system would have a service life of 20 years. (1989 Plastic Pipe Draft EIR, p. 88.) While HCD has since made varying other claims as to CPVC’s expected lifespan, it has never explained why its initial estimate of 20 years should be disregarded. The patent for at least one CPVC manufacturer states that the lifespan of CPVC is “as long as 30 or 40 years.” (Appendix 37.)

Moreover, since the issuance of the 2000 MND, new evidence has arisen corroborating the potential solid waste problem posed by the increased use of CPVC. A 2005 report by the San Francisco Department of the Environment examined the solid waste problem posed by various types of plastic pipe and found that CPVC posed the most significant problem. The report found that CPVC is hard to recycle and is considered a “contaminant” by most plastic recycling programs. (Appendix 21 at 3, 15.) It also found that CPVC posed disposal problems because it (and PVC) is the only plastic pipe on the market that has OSPAR<sup>23</sup> Chemicals for Priority Action (organotins, lead and possibly cadmium) in the final product itself. (*Id.* at 3.)

The report further finds that disposal of CPVC presents an increased risk of releasing dioxins, heavy metals and other gases into the air due to combustion in incinerators or landfill fires. (Appendix 21 at 3.) The report concludes by recommending that CPVC be “avoided” due to its negative impact on solid waste disposal. (*Id.* at, pp. 4, 17; *see also*, (Center for Health, Environment and Justice, *PVC: Bad News Comes in 3’s* (Dec. 2004) (documenting PVC waste crisis).)

In short, the Addendum’s unsupported claim that the solid waste issue “is not applicable” is contrary to both HCD’s own findings and the substantial evidence submitted herein. Solid waste disposal is a potentially significant adverse environmental impact of the proposed statewide approval of CPVC. As HCD previously determined in 1997, this significant impact must be reviewed and analyzed in an EIR.

#### **E. The Addendum Fails to Adequately Consider and Mitigate the Risks of Fire Propagation and Toxic Smoke Posed by CPVC**

The Addendum also fails to address at all the potential risk of fire propagation and toxic smoke posed by the increased use of CPVC. In its 1997 Initial Study, HCD determined that the statewide approval of CPVC posed a potentially significant risk of fire hazards. (Appendix 17, pp. 7, 14.) HCD found that “During earlier analysis it was determined that CPVC pipe is more susceptible to fire damage than metal pipe, that it could allow more rapid spread of fire, and that it could produce toxic gases when exposed to fire.” The Addendum contains no analysis or evidence rebutting this finding and proposes no mitigations to address this issue.

Substantial evidence exists that when CPVC burns, it produces dioxins, an extremely toxic substance known to cause cancer in humans. (Appendix 21 at 3.) Additionally, the burning of CPVC releases other toxic gases and heavy metals present in the pipe into the air and residual ash, including hydrogen chloride, and

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<sup>23</sup> Oslo-Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (“OSPAR”). Chemicals on the OSPAR list are of high concern for water toxicity.

vinyl chloride. (Fox Comments, §II.C, Appendix 21.) The increased use of CPVC will thus result in the increased likelihood of CPVC burning and releasing dioxins, hydrogen chloride and vinyl chloride in accidental home fires, incinerators and landfill fires. (*Id.*) This is a potentially significant adverse environmental impact that could affect the health of firefighters, building occupants, and neighbors. (Fox Comments, §II.C.) As HCD previously determined in 1997, this significant impact must be reviewed and analyzed in an EIR.

## **F. Mechanical Failure**

The record also contains substantial evidence that CPVC may be subject to premature failure when exposed to numerous common household substances, including termiticides, fungicides, WD-40, oil-based caulk and plasticized PVC (electric wire insulation). (Reid Comments; Appendix 30, CMHC, Research Report on Incompatible Building Materials, p. 40; Appendix 31, Noveon Chemical Resistance Data.)

A 2003 Canadian Report states that certain types of electrical wire and cable jacketing may contain plasticizers that leach out when in contact with CPVC pipe and damage the pipe. (Appendix 30, CMHC, Research Report on Incompatible Building Materials, p. 40.) Nothing in the building code, however, prohibits placement of electrical wiring adjacent to CPVC plastic pipe. Furthermore, it is common to install electrical wiring adjacent to CPVC plastic pipe since the same holes are often used for both plumbing and electrical service. (Appendix 50, Declaration of John Hall.)

There is a significant potential for premature failure due to incompatible materials. This impact must be reviewed and analyzed in an EIR.

## **X. INADEQUATE ASSESSMENT OF CUMULATIVE IMPACTS**

### **A. Legal Standards**

An agency must find that a project may have a significant environmental effect, and thus prepare and EIR, if the possible environmental effects of the project are cumulatively considerable. (Pub. Resources Code § 21083(b)(2); CEQA Guidelines § 15065(c).)

“Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” (CEQA Guidelines § 15355(b).) A lead agency must find that a project will have a significant effect on the environment even if “[t]he possible effects of a project are individually limited but cumulatively considerable.” (Pub. Resources Code § 21083(b); *see also* CEQA Guidelines § 15065(c).) The fact that a particular project's incremental impact is

not significant, or is relatively small when compared to the greater overall problem, does not mean the project does not have significant cumulative impacts. This theory was rejected in the case *Kings County Farm Bureau* because it would allow “the approval of projects which, when taken in isolation, appear insignificant, but when viewed together, appear startling.” (*Kings County Farm Bureau v. City of Hanford*, *supra*, 221 Cal.App.3d at p. 720-21.) The proper standard for a cumulative impacts analysis is whether the impacts are “collectively significant.” (*Id.* at p. 721, citing CEQA Guidelines § 15355.)

## **B. Application of Legal Standards to Addendum**

Aside from its cursory and inaccurate discussion of cumulative air quality impacts (see Addendum, pp. 21-22, 54, 55), the Addendum fails to present any quantification, analysis or factual explanation for its conclusion that the statewide approval of CPVC will not have any cumulatively considerable impacts. (See Addendum, pp 56-57 )

Furthermore, HCD declares numerous times in the Addendum that “[t]he only environmental and health effects necessary to evaluate would be the new impacts associated from the expected increase in the use of CPVC and adhesives.” (Addendum, p. 18; see also Addendum pp. 27, 34, 53.) Contrary to this assertion, “the full environmental impact of a proposed . . . action cannot be gauged in a vacuum.” (*Whitman v. Board of Supervisors of Ventura County* (1979) 88 Cal.App.3d 397, 408 (quoting *Akers v. Resor* (W D. Tenn. 1978) 443 F.Supp. 1355, 1360).) This assertion fundamentally violates CEQA’s requirement that the cumulative impacts of a project be analyzed along with the individual impacts of the project. (Pub. Resources Code § 21083(b)(2); CEQA Guidelines § 15065(c).) CEQA requires an analysis of a project’s potential cumulative impacts when combined with past, present, and reasonably anticipated future projects. (Pub. Resources Code § 21083(b), CEQA Guidelines §§ 15130(b), 15355(b).)

### **1. Inadequate Consideration of Cumulative Impacts on Air Quality**

As discussed above and in Dr. Fox’s comments, the VOC emissions from the proposed project approval will *exceed* both the operational and construction significance thresholds that have been established by several Air Quality Management Districts for such emissions. HCD’s conclusion to the contrary lacks any factual foundation. HCD fails to set any significance threshold, fails to calculate future emissions, fails to calculate the increase in emissions due to the project, and fails to compare the emission increase to a threshold. (Fox (2005) p.3.)

Given the significance of the VOC emissions from the project alone, an accurate cumulative impact analysis is critical in order to apprise the public and

decision-maker of the full scope of the project's potential environmental effects. As demonstrated in Dr. Fox's comments, HCD's analysis of the potential cumulative air quality impacts of the proposed project was inadequate and grossly inaccurate.

## **2. Failure to Consider Cumulative Impacts on Worker Health, Water Quality, Solid Waste Disposal and Manufacturing Impacts**

The Addendum, *without any analysis or factual discussion*, concludes that the statewide approval of CPVC would have no cumulatively considerable impacts on "the routine ... use or disposal of hazardous materials" or on "water quality." (Addendum, pp. 56-57.) Moreover, it fails to even identify, much less discuss, potential cumulative impacts from:

- The increased manufacturing of CPVC;
- The increased production of CPVC solid waste;
- The increased number of workers exposed to CPVC solvents;
- The increased frequency that workers may be exposed to CPVC solvents;
- The increased risk of aquatic toxicity from the increase in the amount of organotins and other contaminants that will be flushed into receiving waters; and
- The expansion of the project to non-residential occupancies

The failure to consider these potential cumulative impacts is a critical defect in HCD's evaluation and undermines the integrity of its conclusions.

## **XI. THE ADDENDUM IMPROPERLY RELIES UPON NSF/ANSI STANDARD 61 AND NSF/ANSI STANDARD 14 TO SUPPORT ITS FINDING OF NO SIGNIFICANT IMPACTS**

Throughout the 25-year history of CPVC evaluation, HCD has been criticized for relying on CPVC's compliance with standards set by NSF International without independently reviewing the underlying basis for the NSF standards and the adequacy of NSF's testing and certification program to ensure that CPVC will have no significant impacts.

NSF is a private organization that tests products. NSF, however, expressly disclaims any responsibility for the decision whether to use an NSF-certified product, does not make its test results available for others to review, and limits its testing protocols based on undisclosed assumptions derived from information provided by manufacturers.

The Addendum relies heavily on NSF certification. On page 14 of the CPVC Addendum, HCD states that, in preparing the Addendum, it "consulted" with "NSF," a private organization that develops the NSF/ANSI American National

Standards for drinking water systems. HCD then proceeds to rely upon NSF/ANSI standard 61 and NSF/ANSI Standard 14 to support its conclusion that the “concentrations of leached materials from the CPVC plumbing system products, materials, and ingredients (including all chemicals, contaminants, or impurities in the product) that came in contact with the water did not result in unacceptable toxicological levels.” (See Addendum at pp. 29, 31, 35-36, 39 and 41.) NSF/ANSI Standard 61 certifies that drinking water system components have been evaluated by NSF to meet certain undisclosed performance and safety evaluations. NSF/ANSI Standard 14 similarly certifies plastic piping system components and related materials

A close look at HCD’s “consultation” with NSF reveals that HCD has once again merely relied upon standards established by NSF without ever obtaining or independently reviewing the studies and data that were used to establish the NSF standards and without conducting the NSF testing and certification process. On March 8, 2005, counsel for commentators sent HCD a request for all documents referenced in or supporting the Addendum, including “all correspondence, reports, studies, expert opinions, e-mails, memos, notes, including but not limited to notes of meetings and telephone conversations, and any other documents relating to the Project and memorializing or obtained as a result of HCD’s consultation with NSF International.” (Appendix 3.)

On April 8, 2005, HCD indicated that it had provided all documents responsive to the March 8, 2005 Public Records request. HCD failed to provide a single document or other evidence showing communication of any kind between the Department and NSF. There was no evidence that HCD had obtained or independently evaluated the studies and data that served as the basis for the NSF standards or that it reviewed NSF testing protocols or results regarding CPVC potable water piping.

The lack of independent review of the NSF certification process is made obvious by HCD’s gross misidentification of NSF as the “National Science Foundation.” As discussed earlier, HCD incorrectly states in the Addendum that the NSF that develops and issues the NSF/ANSI certifications is the “National Science Foundation,” rather than the National Sanitation Foundation. The Addendum goes to great lengths to point out that the National Science Foundation is a governmental body established by Congress. (Addendum at pp. 14-15.) By contrast, the National Sanitation Foundation is a private body not established by Congress

Such false and misleading statements are more than mere editorial errors, they corrupt the entire project description by misleading the public into believing that CPVC has some kind of governmental seal of approval when in fact it has no such thing. These errors also clearly demonstrate HCD’s lack of actual

independent review of the NSF certification process.

**XII. NSF CERTIFICATION DOES NOT RELIEVE THE LEAD AGENCY FROM ITS DUTY TO INDEPENDENTLY EXAMINE THE EVIDENCE THAT CPVC MAY HAVE AN ADVERSE IMPACT ON THE ENVIRONMENT**

HCD may not rely on NSF standards without independently reviewing the underlying data and independently assessing the evaluation process. Such reliance on a private entity's judgment without any independent review violates CEQA's requirement that a Lead Agency exercise its own independent judgment. HCD's response to the public record request for supporting documents demonstrates that HCD never *independently* evaluated the basis for the NSF certifications. HCD has not evaluated the levels of contamination accepted by NSF to determine their safety and never reviewed the actual levels of leachate found in NSF testing.

HCD's blind reliance on a private entity for the fundamental determination of whether leachates from CPVC piping pose a potential health risk violates CEQA's requirement that the Draft EIR reflect the Lead Agency's independent judgment. In amending the CPC, HCD may require an NSF *listing* for CPVC pipe under the authority of the California Housing Law and the State Building Standards Law. However, HCD's authority to require compliance with NSF, IAPMO, ASTM or other materials standards, does not alter its obligation under CEQA to conduct an independent review and analysis of potentially significant effects when preparing an EIR. (See *Plastic Pipe and Fittings Assn. v. California Building Standards Com'n* (2004) 124 Cal.App.4th 1390, 1399-1400 (appellate court upheld requirement of the California Building Standards Commission to independently review the potential environmental impacts from the approval of PEX plastic potable water pipe despite the fact that PEX met NSF standards.)

Even apart from CEQA, a determination of the level of public drinking water contamination that would be allowed by the regulatory approval of a plumbing product coming in contact with that water constitutes an exercise of the police power that cannot be delegated to a non-governmental entity. (63 Ops.Cal.Atty.Gen. 566 (1980).) HCD's reliance on NSF's current and future standards would be constitutionally permissible only if HCD independently evaluated the adequacy of such standards to protect California drinking water consumers. (*Id.*, at pp. 580-582.)

Accordingly, HCD reliance on these standards as the basis for its finding that the statewide approval of CPVC would have no potential impact on the quality of drinking water violates CEQA's requirement for the exercise of independent judgment by the lead agency, and violates the constitutional bar against the delegation of police powers to non-governmental bodies..

### **XIII. NSF CERTIFICATION IS INADEQUATE TO REFUTE THE EVIDENCE THAT CPVC MAY HAVE AN ADVERSE IMPACT ON THE ENVIRONMENT**

#### **A. NSF Expressly Disclaims any Responsibility for Providing Safety Requirements**

NSF itself does not claim that its certification is adequate to ensure that there is no potential for any significant impacts from the use of CPVC. NSF expressly disclaims responsibility or liability to “*anyone*” relying on its standards or testing and emphasizes the importance of independent judgment and regulatory action by any public agency relying on its standards.

“NSF International (NSF), in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of NSF represent its professional judgment. *NSF shall not be responsible to anyone for the use of or reliance upon this standard by anyone.* NSF shall not incur any obligations or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this standard. [¶] Participation in NSF’s standards development activities by a regulatory agency (Federal, state, local) shall not be construed as the agency’s endorsement of NSF, its policies, or any of its standards. [¶] (Appendix 21, p. iii )

Such a disclaimer underscores the need to conduct an independent assessment of the basis for those standards. Without such an assessment it is impossible to know what these standards actually mean and to what extent they can be relied upon to resolve effects that are potentially significant.

For example, the NSF 61 Standard referenced by the Addendum sets forth the health risk assessment methodology applied by NSF in setting allowable levels of contaminants in drinking water. While examination of that methodology is an important starting point in HCD’s evaluation of the NSF action level determinations, a review of the methodology alone is not sufficient to determine the adequacy of those levels in protecting public health. NSF’s analytical method could produce a wide range of action level determinations depending on the specific toxicity data and assumptions used in applying that method to the analysis of particular contaminants. A review of the underlying toxicity studies and data considered by NSF in applying the NSF 61 methodology is essential to any meaningful review of the adequacy of the NSF determinations regarding allowable levels of contamination.

**B. The Record Contains Ample Evidence That NSF Standards and Testing Are Not Adequate to Establish a Product's Safety and Lack of Impact on the Environment**

The Addendum's reliance upon NSF Standards without independently reviewing the underlying basis for the standards and the adequacy of NSF's testing and certification program is not merely a technical legal defect. As discussed in detail in the technical comments attached as exhibits to this letter, the NSF standards, testing and certification process are not adequate to ensure protection of the public health

The attached expert comments, including the 1998 Smith and Lopipero comments and the 1998 and updated 2005 Thomas Reid comments demonstrate numerous substantive deficiencies in NSF standards, including the following.

1. Many of NSF allowable levels of contamination are too high to adequately protect human health.
2. NSF relies on Manufacturer's assertions of product formulas and fails to independently test materials as done in some foreign countries.
3. NSF accepts "range formulas" without disclosure of actual formulas to NSF.
4. NSF "normalization calculation" to estimate "at-the-tap" exposures significantly underestimates exposures for residential plumbing installations.
5. NSF expressly retains the discretion in applying NSF 61 to certify products even where the exposure concentration is in excess of the established MAL for the contaminant.
6. Entire NSF testing and certification process is confidential.
7. NSF is private entity and not accountable to public
8. NSF's operations are almost entirely funded by manufacturers of plumbing products listed and tested by NSF.
9. NSF standards for unregulated contaminants are established largely on the basis of toxicity information and studies provided by and owned by the manufacturers of the regulated products.
10. NSF's standards setting and testing-processes are dominated by the industrial participants that have an economic stake in the results of the process.

The attached expert comments demonstrate that CPVC certification under the ANSI/NSF Standard 61 does not disclose or provide any assurances regarding CPVC's chemical leaching potential. In addition, NSF certification does not consider, at all, the air quality, solid waste, permeation, mechanical failure, toxic smoke, or other potential effects presented by the proposed approval of CPVC.

#### **XIV. IN ADDITION TO THE HEALTH AND SAFETY AND ENVIRONMENTAL RISKS POSED BY CPVC, APPROVAL OF THE PIPE WOULD RESULT IN LITTLE TO NO SHORT-TERM SAVINGS AND MUCH GREATER LONG-TERM COSTS TO CONSUMERS**

Extensive comments on the economic ramifications of plastic pipe approval were submitted in the 1989 proceeding by Dr. William T. Dickens. In his comments, Dr. Dickens concludes that any savings from the use of plastic piping would not be passed on to homebuyers. (Appendix 100-F.)

At the time of his study, Dr. Dickens was a professor of economics at the University of California, Berkeley, and is now a resident scholar in economic studies at the Brookings Institution. He received his Ph.D. in economics from M.I.T. in 1981, has been a Research Associate of the National Bureau of Economic Research since 1983 and serves as a reviewer for the National Science Foundation and several other granting agencies and for all the major economic journals (Appendix 33.) He is also a former member of the President's Council of Economic Advisors.

Dr. Dickens explained that under standard economic theory, any plumbing system cost savings would not be passed on to homebuyers or renters. Since the supply of housing is limited, price is not determined by the cost of construction, but land prices and the demand for housing. (Appendix 100-F.) In other words, the price of a house depends on land costs and what people will pay for it and not on what it cost to build. Dr. Dickens also concluded that, in the long run, the shorter lifespan of CPVC versus copper pipe results in higher replacement costs for consumers and higher total costs. (*Id.*)

No response to Dr. Dicken's comments has ever been presented, and they remain even more relevant today with the skyrocketing price of real estate outpacing any increases in the actual cost of construction.

#### **XV. CONCLUSION**

The proposed use of the Addendum to circumvent full and complete compliance with CEQA requirements violates settled CEQA doctrine and is contrary to HCD's own determinations that statewide approval of CPVC requires the preparation of an EIR. More importantly, it ignores a vast body of evidence demonstrating that the statewide approval of CPVC may have numerous significant impacts on public health and the environment. Such impacts include contamination of drinking water, worker exposure to toxic solvents, increased air emissions, manufacturing impacts, solid waste impacts and increased fire hazards. HCD's proposed Addendum would leave these impacts unexamined and unmitigated. Such a result violates both the letter and the spirit of CEQA.

The Coalition for Safe Building Materials respectfully requests that HCD reconsider its action, withdraw the Addendum, and require the preparation of an EIR prior to amending the CPC to allow the statewide use of CPVC.